

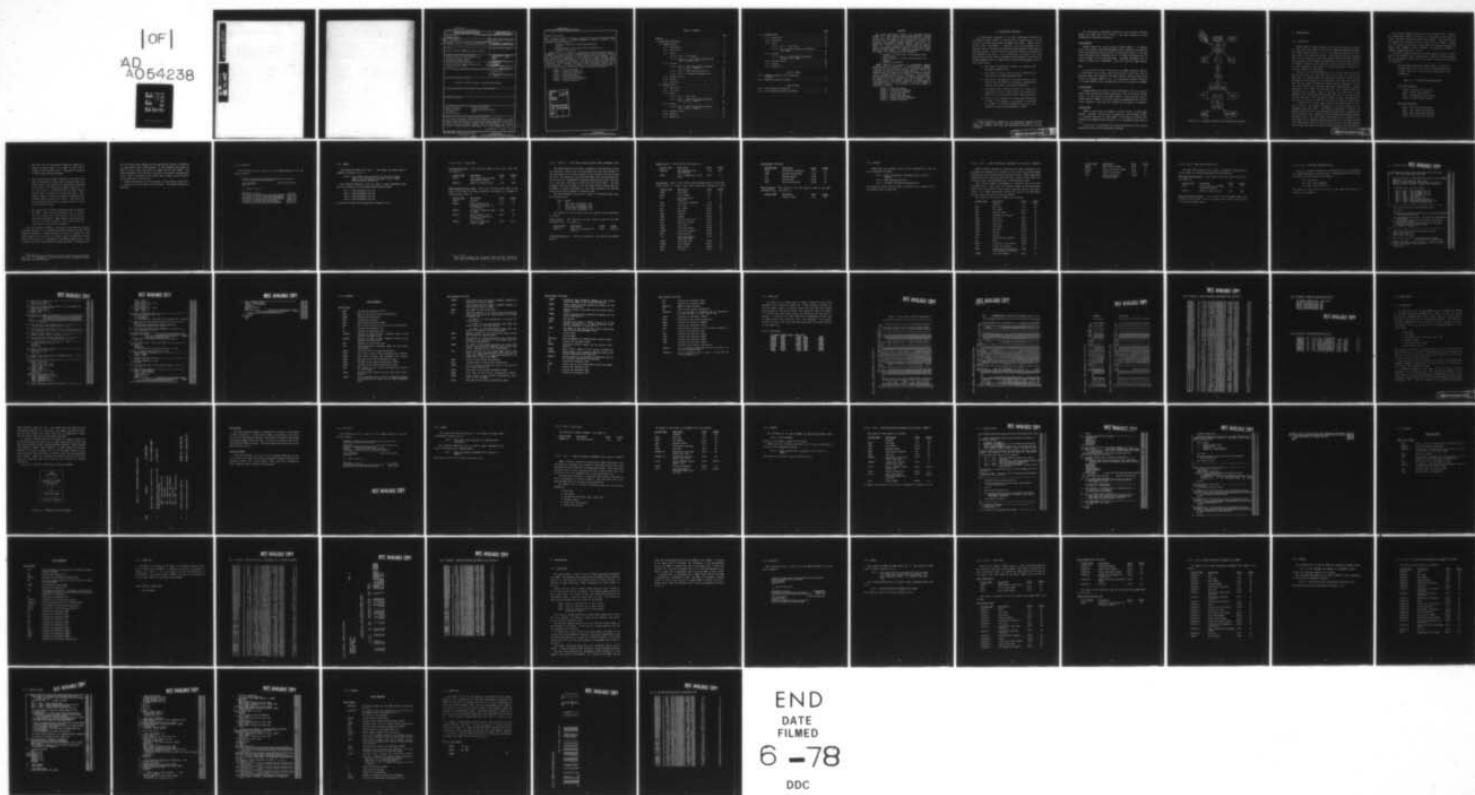
AD-A054 238 DAVID W TAYLOR NAVAL SHIP RESEARCH AND DEVELOPMENT CE--ETC F/G 5/1
DEPOT MAINTENANCE PLANNING AND PROGRAMMING SYSTEM (DMPPS); VOLU--ETC(U)
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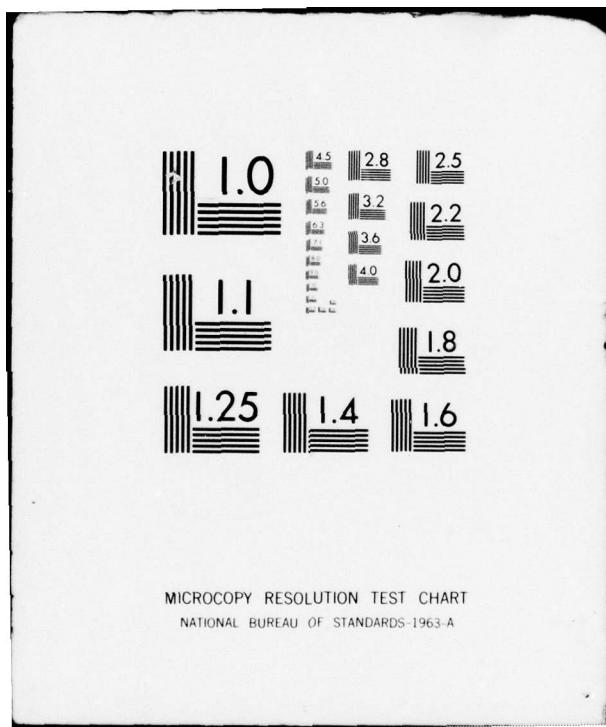
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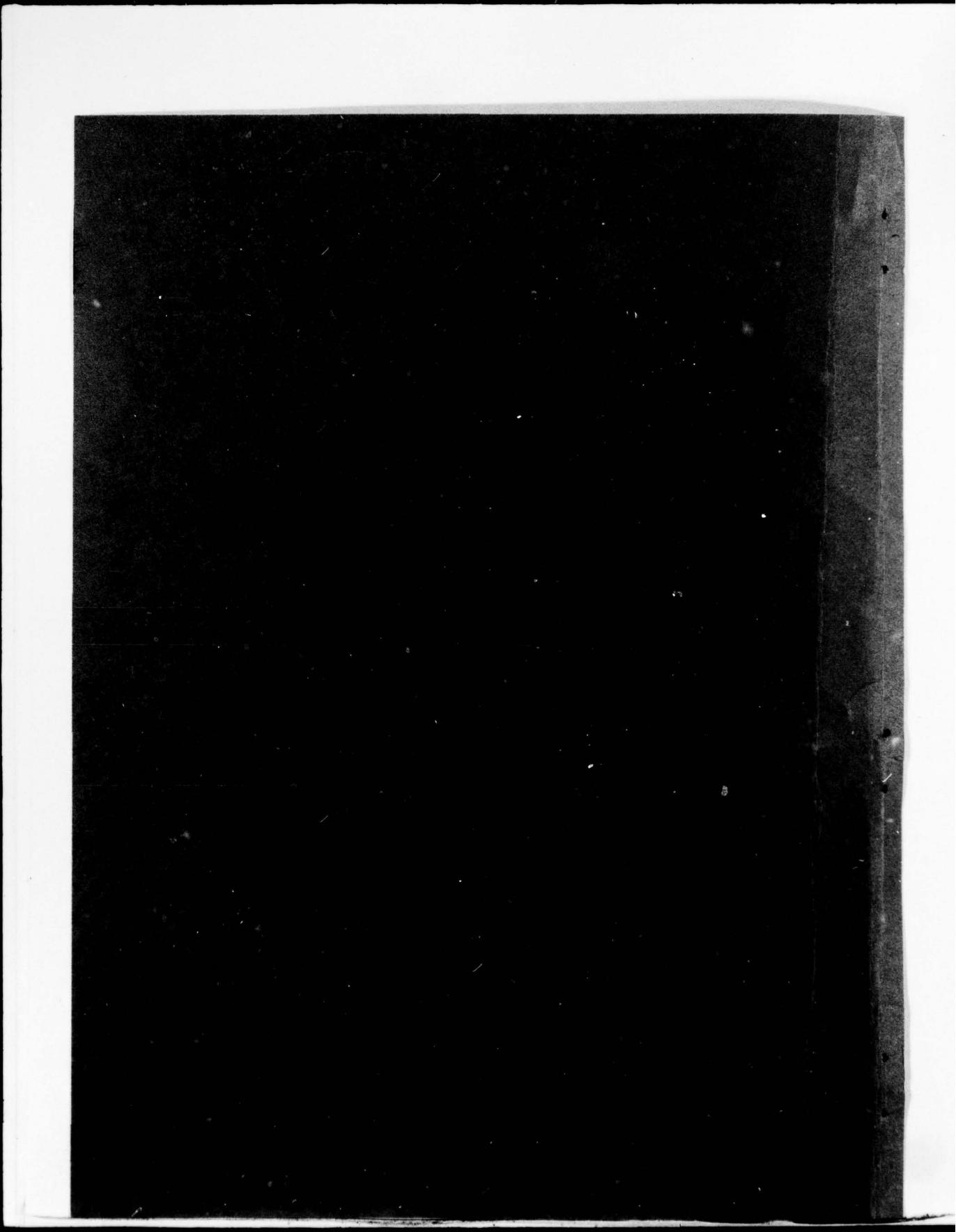


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well as material costs) by shipyard production shop and by ship work breakdown structure (SWBS). It enables management to assess the impact on the shipyards and ship systems of:

- Changes in depot-level maintenance/alterations policy;
- Major changes in force levels and/or composition; and
- Budgetary constraints.

DMPPS consists of a network of interdependent computer programs written in FORTRAN IV. It was developed at DTNSRDC using the CDC 6000 series computers and was subsequently converted for the IBM 360/370 series computers. It is now installed and operational at the NAVSEA 070 computer terminal (which accesses an IBM 370/168 computer). This document presents the IBM 360/370 version of the DMPPS program modules. The modules have been grouped into six subsystems. Each of Volumes 2-7 of this document describes, in detail, one of these subsystems. An executive summary of the entire DMPPS is presented in Volume 1. The content of the seven volumes is indicated as follows:

Volume 1 - Executive Summary
Volume 2 - Preprocessor Subsystem
Volume 3 - Alterations Subsystem
Volume 4 - Repair Subsystem
Volume 5 - Synthesizer Subsystem
Volume 6 - Report Generator Subsystem
Volume 7 - Feedback Subsystem

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TABLE OF CONTENTS

	Page
ABSTRACT.	1
2 PREPROCESSOR SUBSYSTEM	3
2.1 PROGRAM PRELIM.	7
2.1.1 Description.	7
2.1.2 Run Set-Up	11
2.1.3 Inputs	12
2.1.3.1 Unit 5 - Card Inputs.	13
2.1.3.2 Units 1-4 - Long Range Planning System (LRPS) Assignment Files	14
2.1.4 Outputs.	17
2.1.4.1 Unit 7 - Depot Maintenance Assignment File, Version 0 (DMAF-0).	18
2.1.4.2 Unit 8 - DMAF Identification File	20
2.1.4.3 Unit 9 - Non-Depot Maintenance File	21
2.1.5 Program Listing.	22
2.1.6 Glossary	26
2.1.7 Sample Run	30
2.2 PROGRAM ERRCHK.	37
2.2.1 Description	37
2.2.2 Run Set-Up	41
2.2.3 Inputs	42
2.2.3.1 Unit 5 - Card Input	43
2.2.3.2 Unit 1 - Depot Maintenance Assignment File, Version 0 (DMAF-0).	43
2.2.4 Outputs	45
2.2.4.1 Unit 2 - Depot Maintenance Assignment File, Version 1 (DMAF-1).	46
2.2.5 Program Listing	47
2.2.6 Glossary	51
2.2.7 Sample Run	53

	Page
2.3 PROGRAM UPDEP	57
2.3.1 Description.	57
2.3.2 Run Set-Up	59
2.3.3 Inputs	60
2.3.3.1 Unit 5 - Card Inputs.	61
2.3.3.2 Unit 8 - Depot Maintenance Assignment File (DMAF)	63
2.3.4 Outputs.	64
2.3.4.1 Unit 9 - Revised Depot Maintenance Assignment File (DMAF)	65
2.3.5 Program Listing.	66
2.3.6 Glossary	69
2.3.7 Sample Run	70

LIST OF FIGURES

2.0-1 - Schematic Diagram of the Preprocessor Subsystem	5
2.2-1 - ERRCHK Hierarchical Diagram	38

LIST OF TABLES

2.1-1 - Naval Shipyard Designations	8
2.2-1 - Error Messages Generated by FRRCHK.	39

ABSTRACT

The Depot Maintenance Planning and Programming System (DMPPS) is a large computer system developed over a period of two and a half years by the David W. Taylor Naval Ship Research and Development Center (DTNSRDC), Code 186 for the Naval Sea Systems Command (NAVSEA), Code 070T. The System was developed to project shipyard resource requirements (i.e., labor mandays and costs as well as material costs) by shipyard production shop and by ship work breakdown structure (SWBS). It enables management to assess the impact on the shipyards and ship systems of

- Changes in depot-level maintenance/alterations policy
- Major changes in force levels and/or composition
- Budgetary constraints

DMPPS consists of a network of interdependent computer programs written in FORTRAN IV. It was developed at DTNSRDC using the CDC 6000 series computers and was subsequently converted for the IBM 360/370 series computers. It is now installed and operational at the NAVSEA 070 computer terminal (which accesses an IBM 370/168 computer). This document presents the IBM 360/370 version of the DMPPS program modules. The modules have been grouped into six subsystems. Each of Volumes 2-7 of this document describes, in detail, one of these subsystems. An executive summary of the entire DMPPS is presented in Volume 1. The content of the seven volumes is indicated as follows:

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- Volume 6 - Report Generator Subsystem
- Volume 7 - Feedback Subsystem

2. PREPROCESSOR SUBSYSTEM

The Preprocessor Subsystem of the Depot Maintenance Planning and Programming System (DMPPS) is responsible for preparing the initial version of the Depot Maintenance Assignment File (DMAF). DMAF is one of the key files of the DMPPS. It contains a list of all shipwork anticipated for each of the Naval and privately-owned shipyards, broken down by six-month periods. The file covers the five-year period to be reported on (as selected by the user). It is, essentially, an extract of the Long Range Planning System (LRPS) Assignment Files prepared by the Naval Sea Systems Command, Code 071. DMAF differs from the LRPS Assignment Files in the following ways:

- Only "depot maintenance"** shipwork is extracted from the LRPS Assignment Files.
- The format of each of the records of DMAF differs from those of the LRPS Assignment Files.
- Some of the information on the LRPS records is not carried over onto DMAF (i.e., homeport, specialization category, type select, and docking parameters).
- Each DMAF record contains space for the repair and alterations matrix numbers which are required by DMPPS (but not by the Long Range Planning System).
- Some of the information is specified differently on DMAF. For example, the shipyard is specified by a number on the LRPS Assignment File, but is converted to a five-letter designation for DMAF.

**Depot maintenance" shipwork is all depot-level repair/alterations work to be reported to OSD(I&L) under DOD Instruction 4151.15. It includes all shipwork other than new construction, fitting out and post shakedown.

The Preprocessor Subsystem consists of three programs (PRELIM, ERRCHK, and UPDEP) and a sort routine. The major functions of these components are described as follows:

Program PRELIM

PRELIM creates the initial version of DMAF (DMAF-0). It examines each of the records of the LRPS Assignment Files, discards all records not within the selected five-year period, and determines whether or not each record describes depot maintenance work. All depot maintenance work is placed on DMAF-0 in the required format. Non-depot maintenance work is saved on another file ("NON-DEPOT"), using the format for DMAF records.

Sort

A sort must be made on the version of DMAF created by PRELIM. It sorts DMAF first by ship, then by availability start date, then by sequence number, and finally by semi-annual period. The sort routine must also be run whenever ERRCHK is run. It is described in detail in Section 2.2 (program ERRCHK) and is incorporated into the run set-up for ERRCHK.

Program ERRCHK

ERRCHK examines each record of the sorted DMAF for errors in sequence number and/or percent alterations and prints a list of the errors encountered. It also creates a new DMAF (DMAF-1), which differs from the sorted version of DMAF-0 in that the records are numbered and the "continuation indicator" field has been checked and corrected, if necessary.

Program UPDEP

UPDEP is used within the DMPPS to revise, insert, or delete DMAF records. Although it may be used to update any of the versions of DMAF, it is usually used only to update DMAF-1 on the basis of "errors" discovered by the ERRCHK program (Section 2.2) or the MATCH program (Section 3.1).

Figure 2.0-1 illustrates the interrelationships of the various programs and files of the Preprocessor Subsystem.

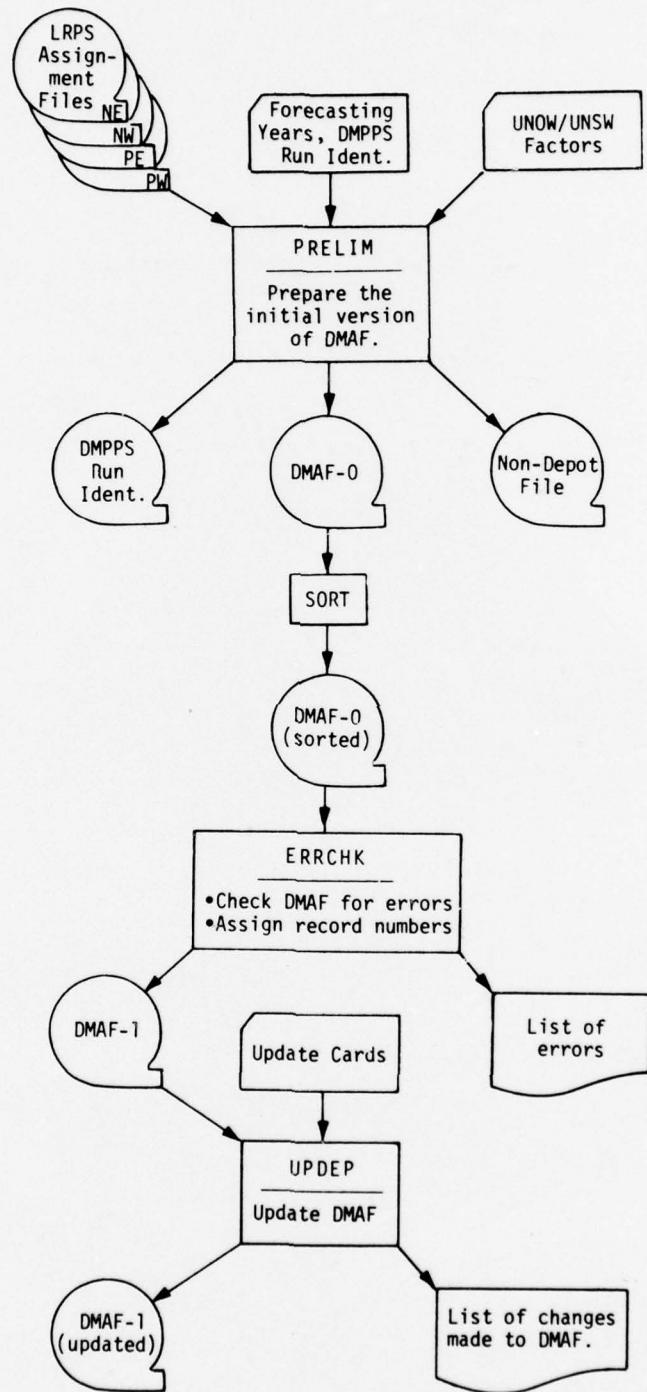


Figure 2.0-1 - Schematic Diagram of the Preprocessor Subsystem

2.1 PROGRAM PRELIM

2.1.1 DESCRIPTION

PRELIM reads the LRPS Assignment Files, extracts pertinent information from them, and creates a new file, the Depot Maintenance Assignment File (DMAF), which contains a list of all shipwork scheduled for a five-year period (the forecasting period). DMAF contains only that shipwork which is to be reported on under the automated Depot Maintenance Planning and Programming System (DMPPS) established by the Office of the Secretary of Defense (Installation and Logistics) through DOD Instruction 4151.15. Any other shipwork, termed herein "non-depot maintenance" shipwork, is placed on another file, "Non-Depot".

There are four LRPS Assignment Files, one for each of the four sectors--Navy East (NE), Navy West (NW), Private East (PE), and Private West (PW). The sectors denote the ownership and coastal location of the shipyard where the shipwork is to be performed. The first four records on each file are header records which contain general information such as file identification and shipyard number/name cross-reference. PRELIM generates a file, "DMAF Run Identification", which contains DMPPS run identification information (input by the user on a card) and the LRPS Assignment File identifications extracted from each of the four sector files of the LRPS. This information enables the user to determine, at any time, the version of LRPS that was used to create the current DMAF.

In addition to the four header records, each LRPS sector file contains a list of all shipwork scheduled for the next 10 years for the shipyards within the sector. The shipwork is described in terms of the mandays required for the various scheduled availabilities. Availabilities are identified by ship, availability start and end dates, sequence number, and type of work. The total manday requirements for an availability are broken down into the amounts required during each of the six-month periods (of a fiscal year) within which the availability falls. The LRPS Assignment Files contain one record for each six-month period of each availability.

Each record on DMAF corresponds to one of the LRPS records. However, any records which describe a portion of an availability not within the (input) five-year forecasting period are discarded. Also discarded are any records with a ship type field of "UDOC", "FL", or "DDSN". In addition, the sector designation on records describing shipwork scheduled for Newport News ("SNEWS"), Groton ("SGROT"), or Pascagoula ("SPASC") is changed by PRELIM from "PE", to "NE".

Pertinent information from all other LRPS records is placed on either DMAF or the Non-Depot File, as appropriate. Some of the LRPS parameters must be converted to a different form for DMAF. This entails the following processing:

- The yard number specified on LRPS records is converted to the appropriate four or five-letter yard designation used on DMAF. Table 2.1-1 lists the Navy shipyards and their designations.

TABLE 2.1-1 - NAVAL SHIPYARD DESIGNATIONS

East Coast Shipyards

CHASN - Charleston Naval Shipyard
NORVA - Norfolk Naval Shipyard
PHILA - Philadelphia Naval Shipyard
PTSMH - Portsmouth Naval Shipyard

West Coast Shipyards

LBECH - Long Beach Naval Shipyard
MARE - Mare Island Naval Shipyard
PEARL - Pearl Harbor Naval Shipyard
PUGET - Puget Sound Naval Shipyard

- The start and end availability dates are specified on LRPS as relative dates (i.e., number of days since 1 October of the LRPS base year*). They must be converted to their Gregorian date equivalent.
- The six-month period number specified on the LRPS record must be converted to fiscal year and period within the fiscal year for the portion of an availability described by the record. The LRPS period numbers range from 1 to 20, with period 1 representing the six-month period starting with 1 October of the LRPS base year. DMAF, however, employs a different scheme for designating the six-month period covered by the record. The fiscal year and six-month period (first or second) within the fiscal year are stored on DMAF.
- The continuation indicator designation must be modified for DMAF. LRPS uses the characters "(C)" to indicate that the record is not the first on the file for a particular availability. DMAF, however, uses an asterisk ("*") for the same purpose. Both files denote the availability's first record by blank(s).

The final function of PRELIM is to divide all Navy UNOS work (Unscheduled/Other Shipwork) into its UNSW (Unscheduled Shipwork) and UNOW (Other Shipwork) components. PRELIM performs this task by reading, for each Naval shipyard, the fractions to be used to split the UNOS work and the number of the matrix to be assigned to the UNSW and UNOW portions. When an LRPS record with a ship type field containing "UNOS" is encountered for

*The LRPS base year is found on the fourth record of the LRPS Assignment File. It represents the first year for which a schedule of availabilities exists on the file.

one of the Navy yards, PRELIM uses the appropriate fractions to determine the UNOW mandays and the UNSW mandays. It then generates two records on DMAF--one with a ship type field of "UNOW" and one with "UNSW". The computed mandays for the category are placed on the record, the applicable matrix number is assigned as the repair matrix number, and the percent alterations field is set to zero.

PRELIM consists only of a main program (no subroutines or functions). It performs all of the tasks so far described. No printed messages are generated.

2.1.2 RUN SET-UP

The following set-up is used to run the PRELIM program on the IBM 360/370 computer:

```
//NVSPREL2 JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,15),MSGLEVEL=1
//J0RLIB DD DSN=NVS01.DEPOT.LIB,DISP=SHR

// EXEC PGM=PRELIM2                               (EXECUTE PROGRAM PRELIM2)
//GO.FT05F001 DD *

[REDACTED] PRELIM card inputs (unit 5)

//GO.FT06F001 DD SYSOUT=A                         (NOT USED)
//GO.FT01F001 DD DSN=WDPC.A010054.A9967.NEOUT,DISP=SHR   (INPUT FILE)
//GO.FT02F001 DD DSN=WDPC.A010054.A9967.NMOUT,DISP=SHR   (INPUT FILE)
//GO.FT03F001 DD DSN=WDPC.A010054.A9967.PEOUT,DISP=SHR   (INPUT FILE)
//GO.FT04F001 DD DSN=WDPC.A010054.A9967.PWOUT,DISP=SHR   (INPUT FILE)
//GO.FT07F001 DD DSN=NVS01.DMAF0.DATA,DISP=SHR          (OUTPUT FILE)
//GO.FT08F001 DD DSN=NVS01.DMAF.RUNID.DATA,DISP=SHR      (OUTPUT FILE)
//GO.FT09F001 DD DSN=NVS01.NONDEPOT.DATA,DISP=SHR        (OUTPUT FILE)
```

2.1.3 INPUTS

Card inputs are made using unit 5. The format for these cards is presented in Section 2.1.3.1.

Unit 5 - Card inputs which specify (1) the first fiscal year to be included on the DMAF, and (2) UNOW/UNSW processing information.

The following additional units are used to input information from disk files created by the Long Range Planning System (LRPS):

- Unit 1 - LRPS Assignment File, NE
- Unit 2 - LRPS Assignment File, NW
- Unit 3 - LRPS Assignment File, PE
- Unit 4 - LRPS Assignment File, PW

The format for these files is described in Section 2.1.3.2.

2.1.3.1 Unit 5 - Card Inputs

Forecast Period Card. This card must appear as the first input card. Its format is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
IFYST	First fiscal year of depot maintenance forecast	1-2	I2
RUNID(10)	DMPPS run identification	4-43	10A4

UNOS Processing Control Cards. There must be exactly eight cards of this type, one for each of the Naval shipyards. The format for the UNOS processing control cards is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
YARD(I)	Shipyard	1-5	A5
MUNSW(I)	Matrix number* to be assigned to UNSW work in this shipyard	10-13	I4
FUNSW(I)	Fraction of UNOS work which is UNSW**	19-24	F6.4
MUNOW(I)	Matrix number* to be assigned to UNOW work in this shipyard	28-31	I4
FUNOW(I)	Fraction of UNOS work which is UNOW**	38-43	F6.4

*The matrix numbers must be between 2800 and 3000 (inclusive).
**The fractions FUNSW and FUNOW for each yard must sum to 1.0.

2.1.3.2 Units 1-4 - Long Range Planning System (LRPS) Assignment Files

The LRPS Assignment Files contain schedules of availabilities of shipyard resources, type of work to be performed, and start and end dates of each availability for all Naval vessels for the "current" and nine succeeding years. The shipyards in the LRPS Assignment Files are subdivided into sectors which are represented by shipyard ownership and coastal locations (i.e., Navy East, Navy West, Private East and Private West). The LRPS Assignment Files are created by the Long Range Planning System which was developed to provide assistance in long range scheduling and workload projections for Naval shipwork in domestic yards.

The LRPS Assignment Files must be input to the PRELIM program using the following units:

<u>Unit</u>	<u>Sector</u>
1.	Navy East Assignment File
2.	Navy West Assignment File
3.	Private East Assignment File
4.	Private West Assignment File

The formats for each of these files are identical and are described as follows:

Header Record 1. This record is the first record on each of the LRPS Assignment Files. Its format is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
YDNMF(10)	Names of the shipyards on the file	21-80	10(A5,1X)

Header Records 2 and 3. These two records are not used by the PRELIM program.

Header Record 4. The format for this record is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
LRPSID(6)	LRPS Assignment File identification	5-28	6A4
IFSTYR	First calendar year of the file	29-30	I2

Ship Records. There is one record of the following format for each semi-annual period of a fiscal year within which each availability falls:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
IYDNO	Yard number	1-2	I2
IPDNO	Period number	3-4	I2
DKID	Dock availability assignment	5-7	A3
CONT	Continuation indicator	8-10	A3
ISHIP	Ship type	11-14	A4
HULL	Hull number	16-19	A4
HMPT	Home port	20-24	A5
IDKDY	Dockdays	25-27	I3
IMNDY	Mondays	28-34	I7
ISTRRT	Relative start date	35-38	I4
IEND	Relative end date	39-42	I4
IDKCLS	Dock class	43-44	I2
IDKPD	Period ship docks	45-46	I2
IUDKPD	Period ship undocks	47-48	I2
SPEC	Specialization	49-52	A4
ICRV	Labor distribution histogram number	53-54	I2
ITOTDY	Total dock days	55-58	I4
ITOTMN	Total mandays	59-65	I7
AVAIL	Type of work	66-68	A3
IPRIO	Priority	69-70	I2

Ship Records (Continued)

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
ISRES	Docking start restraint	71-73	I3
IERES	Docking end restraint	74-76	I3
ISRQ	Sequence number	77-80	I4
ILAP	Days overlap	81-85	I5
IPCTA	Percent alterations	87-89	I3

Trailer Records. This record is the last record on each of the LRPS Assignment Files. Its format is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
	Contains "9999"	1-4	I4

2.1.4 OUTPUTS

PRELIM uses the following units to store information on disk for use by subsequent programs:

Unit 7 - Depot Maintenance Assignment File, Version 0
(DMAF-0)

Unit 8 - DMAF Identification File

Unit 9 - Non-Depot Maintenance Assignment File

The formats for these files are given in Sections 2.1.4.1 through 2.1.4.3.
No hardcopy output is generated.

2.1.4.1 Unit 7 - Depot Maintenance Assignment File, Version 0 (DMAF-0)

DMAF-0 contains information describing all depot maintenance ship availabilities scheduled for yard-work at both Navy and privately-owned shipyards during the selected five-fiscal-year period. Depot maintenance availabilities are those availabilities with a type of work other than Fitting Out (FO), Post Shakedown (PS), or New Construction (NC).

Each record of DMAF-0 corresponds to a record on one of the LRPS Assignment Files. Thus, there is a record on DMAF for each semi-annual period that an availability falls within, providing that (a) the availability is a "depot maintenance" availability, and (b) the semi-annual period is within the 5-year forecasting period.

The format for each record of DMAF-0 is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
Y	Shipyard	1-5	A5
ISHIP	Ship type	6-9	A4
IHULL	Hull number	10-13	I4
ISEQ	Sequence number	14-17	I4
CONT	Continuation indicator	18	I1
AVAIL	Type work	19-21	A3
ISTMO	Start month	22-23	I2
ISTDY	Start day	24-25	I2
ISTYR	Start year	26-27	I2
IEDMO	End month	28-29	I2
IEDDY	End day	30-31	I2
IEDYR	End year	32-33	I2
SPEC	Specialization category	34-36	A3
SEC	Sector	37-38	A2
NOWYR	Fiscal year (this record)	39-40	I2
IPER	Period (this record)	41	I1
IMNDY	Production shop productive (PSP) mandays (this period)	42-48	I7
ITOTMN	Total PSP mandays	49-55	I7

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
MATNOR	Repair matrix number	56-59	I4
MATNOA	Alterations matrix number	60-63	I4
IPCTA	Percent alterations	64-66	I3
ICRV	Labor distribution histogram number	67-68	I2

2.1.4.2 Unit 8 - DMAF Identification File

The DMAF Identification File contains information identifying the current DMPPS run, and LRPS Assignment File identification.

DMAF Identification Record. This record is the first record on the file.

Its format is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
IFYST	First fiscal year of DMPPS forecasting period	1-2	I2
RUNID(10)	DMPPS run identification	4-43	10A4

LRPS Identification Records. Four records of the following format form records 2-5 of the file. Each is an extract of the fourth record of one of the LRPS Assignment Files.

2.1.4.3 Unit 9 - Non-Depot Maintenance File

This file contains information on ship-availabilities not considered to be "depot maintenance" availabilities. Availabilities with the following types of work fall within this category:

FO - Fitting Out

PS or PSA - Post Shakedown

NC or RNC - New Construction

The format for each record on the file is the same as that given in Section 2.1.4.1 (DMAF-0).

2.1.5 PROGRAM LISTING

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```

*****PROGRAM PRELIM2(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE1,
C****. TAPE2,TAPE3,TAPE4,TAPE7,TAPE8,TAPE9)
C
C THIS PROGRAM EXTRACTS A PRELIMINARY DMAF FROM THE LRPS ASSIGNMENT
C FILE.
C PROGRAMMED BY JAY MANDELBAUM AUGUST 1975
C PART OF THE CODING WAS TAKEN FROM A PROGRAM BY DAN ALLEN
C REVISED BY LINDA L. LAMATRICE, DTNSRDC, CODE 186 (DEC 1976)
C
C THE FOLLOWING UNITS ARE USED BY PRELIM:
C
C UNIT 1 - INPUT - LRPS ASSIGNMENT FILE, NE
C UNIT 2 - INPUT - LRPS ASSIGNMENT FILE, NW
C UNIT 3 - INPUT - LRPS ASSIGNMENT FILE, PE
C UNIT 4 - INPUT - LRPS ASSIGNMENT FILE, PW
C UNIT 5 - INPUT - CARD INPUTS
C UNIT 6 - OUTPUT - NOT USED BY PRELIM
C UNIT 7 - OUTPUT - DMAF, VERSION 0 (UNSORTED)
C UNIT 8 - OUTPUT - DMAF IDENTIFICATION RECORDS FILE
C UNIT 9 - OUTPUT - NON-DEPOT MAINTENANCE FILE
C
C-----.
C
C REAL*8 YARD, DBLANK, Y, HMPT, SGROT, SNEWS, SPASC, YDNME
C
C REAL MAP, NC
C
C DIMENSION YARD(8), RUNID(10), LPPSID(6), SECTOR(4), MUNSH(8), MUNOW(8), PREL 300
C   FUNSW(8), FUNOW(8), YDNME(10) . PREL 310
C
C DATA SECTOR/2HNE, 2HNW, 2HPE, 2HPW/, SGROT/5HSGROT/, SNEWS/5HSNEWS/, PREL 320
C   SPASC/5HSPASC/ PREL 330
C DATA UNOS/4HUNOS/, UNSW/4HUNSW/, UNOW/4HUNOW/, UDOC/4HUDOK/, PREL 340
C   FL/2HFLL/, DDSN/4HDDSN/ PREL 350
C DATA MAP/3HMAP/, FO/2HF0/, PS/2HPS/, PSA/3HPSA/, RNC/3HRNC/, PREL 360
C   NC/2HNC/, OS/2HOS/, SW/2HSW/, OW/2HOW/ PREL 370
C DATA ASTR/4H****/, BLANK/1H / PREL 380
C
C-----.
C
C READ FIRST FISCAL YEAR OF DEPOT MAINTENANCE FORECAST
C READ (5,100) IFYST, RUNID
100 FORMAT (I2,1X,10A4)
      WRITE (8,100) IFYST, RUNID
C
C-----READ FOR EACH NAVY YARD - UNSW AND UNOW MATRIX NUMBERS
C                                     - FRACTION OF UNOS FOR UNSW AND UNOW
C
C DO 110 I1 = 1,8
110 READ (5,1200) YARD(I1), MUNSH(I1), FUNSW(I1), MUNOW(I1), FUNOW(I1)
120 FORMAT (A5,4X, I4,6X, F6.4,4X, I4,6X, F6.4)
      IFYEND = IFYST + 4
      DO 400 J=1,4

```

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```

C-----READ LIST OF YARDS ON LRPS FILE. -----
    READ (J,130) YDNME
    130 FORMAT(T21,10(A5,1X)//)
C
C-----READ FIRST CALENDAR YEAR AND IDENT. OF LRPS ASSIGNMENT FILE. -----
    READ (J,150) LRPSID,IFSTYR
    150 FORMAT (4X,6A4,I2)
        WRITE (8,160) LRPSID
    160 FORMAT (6A4)
C
C-----READ LRPS ASSIGNMENT FILE RECORD-----
    170 READ(J,200) IYDNO,IPDNO,DKID,CONT,SHIP,IHULL,HMPT,IKDGY,IMNDY,
        A           ISTRT,IEND,IKCLS,IKPD,SPEC,ICRV,ITOTDY,
        B           ITOTMN,AVAIL,IPRIO,ISRES,IERES,ISEQ,ILAP,IPCTA
    200 FORMAT(2I2,2A3,A4,1X,I4,A5,I3,I7,2I4,3I2,A4,I2,I4,I7,A3,I2,2I3,
        A           I4,I5,1X,I3)
C
C-----TEST FOR END OF LRPS ASSIGNMENT FILE-----
    IF(IYDNO .EQ. 99 .AND. IPDNO .EQ. 99) GO TO 400
C
C-----TEST FOR INVALID SHIP TYPES-----
    IF (SHIP.EQ.UDOC .OR. SHIP.EQ.FL .OR. SHIP.EQ.ODSN) GO TO 170
C
C-----CALCULATE FISCAL YEAR-----
    NOWYR = IFSTYR + (IPDNO - MOD(IPDNO - 1,2))/2 + 1
C
C-----TEST IF SHIP WITHIN FISCAL YEAR LIMITS-----
    IF (NOWYR.LT.IFYST .OR. NOWYR.GT.IFYEND) GO TO 170
C
C-----IF TYPE OF WORK IS MAP, SET PERCENT ALT TO ZERO. -----
    IF (AVAIL.NE.MAP) GO TO 210
    IPCTA=0
    MATNOA=1500
C
C-----TEST FOR AVAILABILITY OVERLAP-----
    210 IF(ILAP .LT. 0) GO TO 220
        IEND = IEND + ILAP
        GO TO 230
C
C-----CORRECT START AND END DATES FOR OVERLAPPING WORK -----
    220 ISTRT = ISTRT + ILAP
C
C-----CALCULATE START AND END DATES-----
    230 IEND = IEND + 180
        ISTRT = ISTRT + 180
        IEDYR = IEND / 360 + IFSTYR
        IF(ISTRT .GE. 0) GO TO 250
        ISTYR = IFSTYR
    240 ISTRT = ISTRT + 360
        ISTYR = ISTYR - 1
        IF(ISTRT .LT. 0) GO TO 240
        GO TO 260
    250 ISTYR = ISTRT / 360 + IFSTYR
    260 IEDMO = MOD(IEND,360) / 30 + 1
        ISTMO = MOD(ISTRT,360) / 30 + 1
        IEDDY = MOD(IEND,30) + 1
        ISTDY = MOD(ISTRT,30) + 1
        IPER = MOD(IPDNO - 1,2) + 1
C
C-----INSERT PROVISION FOR NEW FISCAL YEARS-----

```

PREL 560
PREL 570
PREL 580
PREL 590
PREL 600
PREL 610
PREL 620
PREL 630
PREL 640
PREL 650
PREL 660
PREL 670
PREL 680
PREL 690
PREL 700
PREL 710
PREL 720
PREL 730
PREL 740
PREL 750
PREL 760
PREL 770
PREL 780
PREL 790
PREL 800
PREL 810
PREL 820
PREL 830
PREL 840
PREL 850
PREL 860
PREL 870
PREL 880
PREL 890
PREL 900
PREL 910
PREL 920
PREL 930
PREL 940
PREL 950
PREL 960
PREL 970
PREL 980
PREL 990
PREL1000
PREL1010
PREL1020
PREL1030
PREL1040
PREL1050
PREL1060
PREL1070
PREL1080
PREL1090
PREL1100
PREL1110
PREL1120
PREL1130
PREL1140
PREL1150

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```

ISTMO = ISTMO + 3          PREL1160
IEDMO = IEDMO + 3          PREL1170
IF (ISTMO.LE.12) GO TO 270  PREL1180
ISTMO = ISTMO - 12         PREL1190
ISTYR = ISTYR + 1          PREL1200
270 IF (IEDMO.LE.12) GO TO 280  PREL1210
IEDMO = IEDMO - 12         PREL1220
IEDYR = IEDYR + 1          PREL1230
C                               PREL1240
C-----SET UP CONTINUATION FIELD-----  PREL1250
280 IF(CONT .NE. BLANK) CONT = ASTR  PREL1260
SEC = SECTOR(JI)            PREL1270
Y = YDNME(IVONO)           PREL1280
IF (Y.EQ.SNEWS .OR. Y.EQ.SGROT .OR. Y.EQ.SPASC) SEC = SECTOR(3)  PREL1290
C                               PREL1300
C-----WRITE NON DEPOT MAINTENANCE AVAILABILITIES ON UNIT 9-----  PREL1310
IUNIT = 7                   PREL1320
IF (AVAIL.EQ.FO.OR.AVAIL.EQ.PS.OP.AVAIL.EQ.PSA.OR.  PREL1330
A AVAIL.EQ.RNC.OR.AVAIL.EQ.NC) IUNIT = 9  PREL1340
C                               PREL1350
C-----SPLIT UNOS INTO UNOW AND UNSW COMPONENTS - GO TO 156-----  PREL1360
IF (SHIP.EQ.UNOS) GO TO 320  PREL1370
C                               PREL1380
C-----WRITE DMAF RECORD-----  PREL1390
300 WRITE (IUNIT,310)          Y,SHIP,IHULL,ISEQ,CONT,AVAIL,ISTMO,  PREL1400
A                         ISTOY,ISTYR,IEDMO,IEDDY,IEDYR,SPEC,SEC ,NOWYR,  PREL1410
.                         IPER,IMNDY,ITOTMN,IPCTA,ICRV  PREL1420
310 FORMAT(A5,A4,2I4,A1,A3,6I2,A3,A2,I2,I1,2I7,8X,I3,I2)  PREL1430
GO TO 170  PREL1440
C                               PREL1450
C-----IF PRIVATE SECTOR - DO NOT SPLIT UNOS-----  PREL1460
320 AVAIL=0S  PREL1470
IPCTA = 0  PREL1480
MATNOA=1500  PREL1490
IF (SEC.EQ.SECTOR(3).OR.SEC.EQ.SECTOR(4)) GO TO 300  PREL1500
C                               PREL1510
C-----SET ALT MATRIX NUMBER, PERCENT ALT TO ZERO  PREL1520
C-----ALSO STORE VALUE OF MANDAYS-----  PREL1530
ITEMP1 = IMNDY  PREL1540
ITEMP2 = ITOTMN  PREL1550
C                               PREL1560
C-----DETERMINE YARD FOR THIS UNOS-----  PREL1570
DO 350 I1 = 1,8  PREL1580
IF (Y.EQ.YARD(I1)) GO TO 360  PREL1590
350 CONTINUE  PREL1600
C                               PREL1610
C-----IF NOT AN INPUT YARD - DO NOT SPLIT THE UNOS-----  PREL1620
GO TO 300  PREL1630
C                               PREL1640
C-----WRITE UNSW DMAF RECORD-----  PREL1650
360 IMNDY = ITEMPI*FUNSW(I1)  PREL1660
ITOTMN = ITEMPI*FUNSW(I1)  PREL1670
SHIP = UNSW  PREL1680
MATNOR = MUNSW(I1)  PREL1690
AVAIL=SW
WRITE (IUNIT,370)          Y,SHIP,IHULL,ISEQ,CONT,AVAIL,ISTMO,  PREL1700
A                         ISTOY,ISTYR,IEDMO,IEDDY,IEDYR,SPEC,SEC ,NOWYR,  PREL1720
.                         IPER,IMNDY,ITOTMN,MATNOR,MATNOA,IPCTA,ICRV  PREL1730
370 FORMAT(A5,A4,2I4,A1,A3,6I2,A3,A2,I2,I1,2I7,2I4,I3,I2)  PREL1740
C                               PREL1750

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```
C-----WRITE UNOW DMAF RECORD----- PREL1760
IMNDY = ITEMP1*FUNOW(I1) PREL1770
ITOTMN = ITEMP2*FUNOW(I1) PREL1780
SHIP=UNOW PREL1790
MATNOR = MUNOW(I1) PREL1800
AVAIL=0W PREL1810
WRITE (IUNIT,370)      Y,SHIP,IHULL,ISEQ,CONT,AVAIL,ISTMO, PREL1820
A           ISTDY,ISTYR,IEDMO,IEDDY,IEDVR,SPEC,SEC      ,NOWYR, PREL1830
.   IPER,IMNDY,ITOTMN,MATNOR,MATNOA,IPCTA,ICRV PREL1840
GO TO 170 PREL1850
400 CONTINUE PREL1860
STOP PREL1870
END PREL1880
```

2.1.6 GLOSSARY

LOCAL VARIABLES

Main Program

ASTR	Contains the characters "****".
AVAIL	Type of work for the current availability.
BLANK	Contains one blank space.
CONT	Continuation indicator.
DDSN	Contains the characters "DDSN".
DKID	Dock identification for the current availability.
FL	Contains the characters "FL".
FO	Contains the characters "FO".
FUNOW(8)	Fraction of UNOS for UNOW. Subscript refers to the shipyard (see YARD array).
FUNSW(8)	Fraction of UNOS for UNSW. Subscript refers to the shipyard (see YARD array).
HMPT	Homeport for the current ship.
ICRV	Labor distribution histogram number for the current availability.
IDKCLS	Dock class for the current availability.
IDKDY	Dock days (current LRPS Assignment File record).
IDKPD	Dock period (current LRPS Assignment File record).
IEDDY	End date of the current availability (day).
IEDMO	End date of the current availability (month).
IEDYR	End date of the current availability (year).
IEND	End "date" of the current availability relative to 1 Oct IFSTYR.
IERES	End restraint on dock time for the current availability.
IFSTYR	First calendar year for which a complete schedule of availabilities exists on the LRPS Assignment File.

Main Program (continued)

IFYFND	Last fiscal year for which a complete schedule of availabilities exists on DMAF.
IFYST	First fiscal year for which a complete schedule of availabilities exists on DMAF.
IHULL	Hull number of the current ship.
ILAP	Indicates whether or not the current availability falls entirely within the 10-year period of the LRPS Assignment File. If ILAP = 0, the availability is within the 10-year period. If ILAP > 0, the availability ends ILAP days after the end of the 10-year period. If ILAP < 0, the availability starts ILAP days before the beginning of the 10-year period.
IMNDY	Mandays required for work during the 6-month period described by the current record.
IPCTA	The percent of total production shop productive mandays to be expended on alterations work for the current availability.
IPDNO	The number of the 6-month period of the current LRPS record. The periods are numbered from 1 to 20, with period 1 beginning on Oct 1st of year IFSTYR.
IPER	Period indicator for the current DMAF record. IPER equals "1" if the record pertains to the first half of fiscal year NOWYR, "2" if the record pertains to the second half of fiscal year NOWYR.
IPRIO	Priority of the current availability.
ISEQ	Sequence number of the current availability.
ISRES	Start restraint (in days) on time in dry dock for the current availability.
ISTDY	Start date of the current availability (day).
ISTMO	Start date of the current availability (month).
ISTRRT	Start "date" of the current availability, relative to 1 Oct of IFSTYR.
ISTYR	Start date of the current availability (year).

Main Program (continued)

IITEMP1	Production shop productive mandays for the current period (see IPER) of the current availability.
IITEMP2	Total production shop productive mandays for the current availability.
ITOTDY	Number of days in dry-dock for the current availability.
ITOTMN	Total production shop productive mandays for the current availability.
IUDKPD	Dock period.
IUNIT	Variable unit number. IUNIT is set to "7" if the current availability is a depot maintenance availability; otherwise, it is set to "9".
IYDNO	The number of the yard for the current availability (read from the LRPS Assignment File).
I1	DO-loop index.
J	DO-loop index.
LRPSID(6)	LRPS Assignment File identification (current sector).
MAP	Contains the characters "MAP".
MATNOA	Alterations matrix number for the current availability.
MATNOR	Repair matrix number for the current availability.
MUNOW(8)	Matrix number to be assigned to UNOW work done by the shipyard indicated by the subscript.
MUNSW(8)	Matrix number to be assigned to UNSW work done by the shipyard indicated by the subscript.
NC	Contains the characters "NC".
NOWYR	Fiscal year of the current DMAF record (see IPER).
OS	Contains the characters "OS".
OW	Contains the characters "OW".
PS	Contains the characters "PS".

Main Program (continued)

PSA	Contains the characters "PSA".
RNC	Contains the characters "RNC".
RUNID(10)	DMPPS run identification.
SEC	Sector of the current availability.
SECTOR(4)	Array containing the following sets of characters: (1) "PW", (2) "NW", (3) "NE", and (4) "PE".
SGROT	Contains the characters "SGROT".
SHIP	Ship type of the current availability.
SNEWS	Contains the characters "SNEWS".
SPASC	Contains the characters "SPASC".
SPEC	Specialization category for the current availability.
SW	Contains the characters "SW".
UDOC	Contains the characters "UDOC".
UNOS	Contains the characters "UNOS".
UNOW	Contains the characters "UNOW".
UNSW	Contains the characters "UNSW".
Y	Shipyard of the current availability.
YARD(8)	List of shipyards whose UNOS work is to be split into two parts--UNOW and UNSW.
YDNME(10)	List of shipyards within a sector, as read from the LRPS Assignment File.

2.1.7 SAMPLE RUN

The sample run of PRELIM used, as inputs, extracts of actual LRPS Assignment Files created by NAVSEA 071. These extracts contained the required header records, the trailer record, and only those ship records which pertained to CGN 9-CV 62 ships. The input cards used in the sample run indicate that fiscal years 78-82 were selected as the five years of interest. In addition, the input cards give the UNOW/UNSW fractions used by NAVSEA during their full-scale runs. The remainder of this section presents listings of the input cards and input/output files used by PRELIM for the sample run.

Unit 5 - Card Inputs

78 DMPPS SAMPLE RUN - FEB 1977				
NORVA	2951	.7693	2901	.2307
CHASN	2952	.4964	2902	.5036
PTSMH	2953	.1973	2903	.8027
PHILA	2954	.5030	2904	.4970
LBECH	2955	.6067	2905	.3933
PUGET	2956	.3258	2906	.6742
MARE	2957	.3662	2907	.6338
PEARL	2958	.7487	2908	.2513

Unit 1 (Input) - LRPS Assignment File (Navy Fast)

31

Unit 2 (Input) - LRPS Assignment File (Navy West)

	LBECH	MARE	PUGET	PEARL	POFYN	POFYD	
0 1	78-I	78-II	79-I	79-II	80-I	81-I	81-II 82-I 82-II
0 2	83-I	83-II	84-I	84-II	85-I	85-II	86-I 86-II 87-I 87-II
0 3	4NW-08	122076 OFFICIAL USE	77 NAVAL SHIPYARDS	WEST COAST			
1 1---	CW	43ALAM	0 124004	59 418102121CVA	24	3 342067RO	4 0 0 40 0 0 17
1 2---	(C)CV	43ALAM	0 19985	59 418102121CVA	24	0 342067RO	4 0 0 40 0 0 17
1 3---	(C)CV	43ALAM	0 18076	59 418102121CVA	24	3 342067RO	4 0 0 40 0 0 17
1 7601	CW	41ALAM	90 17997	91145110 7	7CVA 1	90 396045RO	4 0 100 40 0 0 0
1 8G01 (C)CV	CW	41ALAM	0 21547	2101145110 7	7CVA 1	93 396045RO	4 0 100 40 0 0 0
1 9G01 (C)CV	CW	41ALAM	0 1474091145110 7	7CVA 1	90 396045RO	4 0 100 40 0 0 0	
213---	CGN	95D	0 25J00264234302-21AAN	1	90 396045RO	4 0 100 40 0 0 0	
3 1---	CW	61SD	0 111006	0 134 52121CVA	24	0 443300RA	4 0 0 31 0 0 -226 30
3 3---	CV	41ALAM	7 40000	399 460102121CVA	17	0 40000RA	4 0 0 36 0 0 40
3 3---	CGN	25LBECH	0 30400	464 524502121AAN	1	0 30000RA	3 0 0 24 0 0 20
3 3---	CGN	36LBECH	0 43925	464 555462121AAN	1	3 47204RA	3 0 0 4 0 0 24
3 3---	CGN	35SD	0 12300	464 524452121AAN	1	0 12000RA	3 0 0 11 0 0 100
3 4---	(C)CGN	36LBECH	0 32748	464 555462121AAN	1	0 47204RA	3 0 0 4 0 0 24
3 4G02	CGN	9LBECH	77 82471	540162030 4 5AAN	9	200 73900CC	4 3800 30 0 0 0 0
3 4---	CGN	39SD	0 12000	644 704462121AAN	1	1 12000RA	3 0 0 4 0 0 100
3 5G02 (C)CGN	9LBECH	23 163508	540162030 4 5AAN	9	203 73900CC	4 3800 30 0 0 0 0	
3 6G02 (C)CGN	9LBECH	0 164152	540162030 4 5AAN	9	203 73900CC	4 3800 30 0 0 0 0	
3 6G04	CGN	36LBECH	80 116368	913133346 6 6AAN	9	0 278550RO	4 3247 10 0 14 0 0 0
3 7G02 (C)CGN	9LBECH	0 163582	540162030 4 5AAN	9	200 73900CC	4 3800 30 0 0 0 0	
3 7G04 (C)CGN	36LBECH	0 144621	913133346 6 6AAN	9	80 278550RO	4 3247 10 0 14 0 0 0	
3 8G02 (C)CGN	9LBECH	0 12304	540162030 4 5AAN	9	203 73900CC	4 3800 30 0 0 0 0	
3 8G04 (C)CGN	36LBECH	0 17560	913133346 6 6AAN	9	81 278550RO	4 3247 10 0 14 0 0 0	
3 8G01	CGN	35SD	60 757601320174045 8	8AAN 19	81 298507RO	4 3246 0 0 14 0 0 0	
3 9G02 (C)CGN	9LBECH	0 42207	540162030 4 5AAN	9	200 73900CC	4 3800 30 0 0 0 0	
3 9G01 (C)CGN	35SD	0 165233320174045 8	8AAN 19	80 278550RO	4 3246 0 0 14 0 0 0		
310G02 (C)CGN	9LBECH	0 68 540	162030 4 5AAN	9	203 73900CC	4 3800 30 0 0 0 0	
310G01 (C)CGN	35SD	0 57513320174045 8	8AAN 19	81 298507RO	4 3246 0 0 14 0 0 0		
310G02 CGN	25LBECH	60 7576013680210050101AAN	19	81 298507RO	4 3246 0 0 14 0 0 0		
311G02 (C)CGN	25LBECH	0 16523331680210050101AAN	19	81 298507RO	4 3246 0 0 14 0 0 0		
311G05 CW	61SD	100 14557648442174	5111CVA 1	103 396045RO	4 3100 60 0 40 0 0 0		
312G02 (C)CGN	25LBECH	0 575131680210050101AAN	19	81 298507RO	4 3323 30 0 0 0 0 0		
312G05 (C)CV	61SD	0 24895718442174	5111CVA 1	103 396045RO	4 3100 60 0 40 0 0 0		
313G05 (C)CV	61SD	0 201018442174	5111CVA 1	103 396045RO	4 3100 60 0 40 0 0 0		
313---	CGN	36LBECH	0 250022228046212AAN	1	1 25000RA	3 0 0 11 0 0 0	
314G05 CGN	39SD	48 627724022822461415AAN	10	81 278550RO	4 3200 10 0 30 0 0 0		
315G05 (C)CGN	39SD	32 14886854022822461415AAN	10	81 278550RO	4 3200 10 0 30 0 0 0		
315---	CGN	35SD	6 24954264027045212AAN	1	1 25000RA	3 0 0 21 0 0 0	
316G05 (C)CGN	39SD	0 66908402822461415AAN	10	81 278550RO	4 3200 10 0 30 0 0 0		
316---(C)CGN	35SD	0 452640270945212AAN	1	1 25000RA	3 0 0 21 0 0 0		
317G02 CGN	9LBECH	73 41231298432393011RAAN	4	80 26000ORF	4 3135 40 0 165 30 0 0 0		
317---	CGN	25LBECH	0 24679300306046212AAN	17	1 25000RA	4 0 0 31 0 0 0	
318G02 (C)CGN	9LBECH	7 97653398432393011RAAN	4	81 26000ORF	4 3135 40 0 165 30 0 0 0		
318---(C)CGN	25LBECH	0 320300306046212AAN	17	1 25000RA	4 0 0 31 0 0 0		
		9999					

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Unit 3 (Input) - LRPS Assignment File (Private Fast)

0 1	0 01	0 03	0 04	0 05	0 06	0 08	0 09	LUNCY LOFYP
0 2	78-1	78-11	79-1	79-11	M0-1	80-11	81-1	81-11 82-1
0 3	NS3-T	NS3-T	NS3-T	NS3-T	NS3-T	NS3-T	NS3-T	82-11
0 4PE-02	100976 OFFICIAL USE	77	NAVAL DISTRICTS EAST COAST					87-1
5 1---	CW	60MAYPT	86077	95 182	52121CVA 17	1	89360RA	4 0 53
5 2---(C)CV	CW	60MAYPT	2382	95 182	52121CVA 17	0	89360RA	4 0 53
5 3---	CW	59NORVA	73258	392 478	52121CVA 17	0	73250RA	4 0 41
51 0---	CW	60MAYPT	594847101800	52121CVA 17	0	60000RA	4 0 61	
51 1---(C)CV	CW	60MAYPT	51517101800	52121CVA 17	0	60000RA	4 0 61	
51 5---	CW	60MAYPT	6000025202609	52121CVA 17	0	60000RA	4 0 62	
51 7---	CW	60MAYPT	5999529713060	52121CVA 1	1	60000RA	4 0 63	
51 8---(C)CV	CW	60MAYPT	0	7429713060	52121CVA 1	1	60000RA	4 0 63
9999								0

Unit 4 (Input) - LRPS Assignment File (Private West)

0 1	0 12	0 13	D 14	SWPAC NWPAC	PUNCPY POFPY			
0 2	78-1	78-11	79-1	80-11	81-1	82-1	82-11	
0 3	83-1	83-11	84-1	84-11	85-1	85-11	86-11	87-1
0 4PM-J2	100776 OFFICIAL JSE	77	NAVAL DISTRICTS WEST COAST					
1 5---	CW	61SD	0	44312 840 930	52121CVA 1	0	60000RA	4 3 0 51
1 6---(C)CV	CW	61SD	0	15687 840 930	52121CVA 1	0	60000RA	4 3 0 51
1 7---	CW	62SD	0	5392511711260	52121CVA 1	0	60000RA	4 0 0 42
1 8---(C)CV	CW	62SD	0	7411711260	52121CVA 1	0	60000RA	4 0 0 42
1 9---	CW	61SD	0	1473114101500	52121CVA 1	0	60000RA	4 0 0 41
1 10---(C)CV	CW	61SD	0	452616101500	52121CVA 1	0	60000RA	4 0 0 46
1 11---	CW	62SD	0	60000016501740	52121CVA 1	0	60000RA	4 0 0 43
1 12---(C)CV	CW	61SD	0	56266226242714	52121CVA 1	0	60000RA	4 0 0 41
1 13---	CW	61SD	0	373726242714	52121CVA 1	0	60000RA	4 0 0 61
1 14---	CW	62SD	0	6000028942984	52121CVA 1	0	60000RA	4 0 0 61
2 5---	CW	43ALAH	0	2036 8791000102121CVA	17	0	10000RA	4 0 0 44
2 6---(C)CV	CW	43ALAH	0	7903 8791000102121CVA	17	0	10000RA	4 0 0 41
2 15---	CW	41ALAH	0	201326902300102121CVA	17	0	10000RA	4 0 0 41
2 16---(C)CV	CW	41ALAH	0	798626802800102121CVA	17	0	10000RA	4 0 0 41
6 2---	CW	41ALAH	0	4000 279340102121CVA	17	0	40000RA	4 0 0 35
6 11----	CW	41YOKO	0	2999918002159102121CVA	2	0	60000RA	4 3 0 41
6 12---(C)CV	CW	41YOKO	0	3000018002159102121CVA	2	0	60000RA	4 3 0 41
6 13---	CW	41YOKO	0	2399921602519102121CVA	2	0	60000RA	4 3 0 42
6 14---(C)CV	CW	41YOKO	0	3000021602519102121CVA	2	0	60000RA	4 3 0 42
6 15---	CW	41YOKO	0	2399925202979102121CVA	2	0	60000RA	4 3 0 43
6 16---(C)CV	CW	41YOKO	0	3000025202879102121CVA	2	0	60000RA	4 3 0 44
6 17---	CW	41YOKO	0	23999288032339102121CVA	2	0	60000RA	4 3 0 44
6 18---(C)CV	CW	41YOKO	0	30000288032339102121CVA	2	0	60000RA	4 3 0 44
9999								0

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Unit 7 (Output) - Depot Maintenance Assignment File, Version 0

NORVACV	62	40	RO	112177101978CVANE781	140469	346352	4123
NORVACV	62	40	*RO	112177101978CVANE782	199596	346352	4123
NORVACGN	37	4	RA	62178 82278AANNE782	20400	20400	39 1
NORVACV	62	40	*RO	112177101978CVANE791	6286	346352	4123
NORVACV	60	60	RO	4207912 179CVANE792	194944	240000	4723
NORVACGN	38	4	RA	8 37910 279AANNE792	11955	12000	32 1
NORVACV	62	41	RA	9 179112679CVANE792	29389	69170	4217
NORVACV	60	60	*RO	4207912 179CVANE801	45055	240000	4723
NORVACGN	38	4	*RA	8 37910 279AANNE801	44	12000	32 1
NORVACV	62	41	*RA	9 179112679CVANE801	39780	69170	4217
NORVACV	59	42	RA	5 380 72980CVANE802	60000	60000	4317
NORVACGN	37	10	RO	1 281 3 582AANNE811	68369	278000	1413
NORVACGN	37	10	*RO	1 281 3 582AANNE812	161821	278000	1413
NORVACGN	37	10	*RO	1 281 3 582AANNE821	47808	278000	1413
NORVACV	59	43	RA	10 181 1 182CVANE821	60000	60000	4417
NORVACGN	38	10	RO	7 182 9 283AANNE822	69808	278000	913
CHASNCGN	40	4	RA	5 182 7 182AANNE822	12000	12000	100 1
LBECHCV	43	40	RO	113077112978CVANH781	124004	342067	1724
LBECHCV	43	40	*RO	113077112978CVANH782	199985	342067	1724
LBECHCV	43	40	*RO	113077112978CVANH791	18076	342067	1724
LBECHCV	41	40	RO	101280101281CVANH811	179097	396045	0 1
LBECHCV	41	40	*RO	101280101281CVANH812	215472	396045	0 1
LBECHCV	41	40	*RO	101280101281CVANH821	1474	396045	0 1
PUGETCV	61	50	RO	21577 21578CVANH781	111606	443300	3824
PUGETCV	41	36	RA	111078 11179CVANH791	40000	40000	4817
PUGETCGN	25	24	RA	11579 31579AANNNH791	38000	30000	20 1
PUGETCGN	36	4	RA	11579 41679AANNNH791	43925	47204	24 1
PUGFTCGN	35	11	RA	11579 31579AANNNH791	12000	12000	100 1
PUGETCGN	36	4	*RA	11579 41679AANNNH792	3278	47204	24 1
PUGETCGN	9	30	C	4 179 4 182AANNNH792	82471	739000	0 9
PUGETCGN	39	4	RA	71579 91579AANNNH792	12000	12000	100 1
PUGETCGN	9	30	*C	4 179 4 182AANNNH801	163508	739000	0 9
PUGETCGN	9	30	*C	4 179 4 182AANNNH802	164152	739000	0 9
PUGETCGN	36	10	RO	41480 61481AANNNH802	116368	278550	14 9
PUGETCGN	9	30	*C	4 179 4 182AANNNH811	163582	739000	0 9
PUGETCGN	36	10	*RO	41480 61481AANNNH811	144621	278550	14 9
PUGETCGN	9	30	*C	4 179 4 182AANNNH812	123009	739000	14 9
PUGETCGN	36	10	*RO	41480 61481AANNNH812	17560	278550	14 9
PUGETCGN	35	0	RO	6 181 8 182AANNNH812	75760	298507	1419
PUGETCGN	9	30	*C	4 179 4 182AANNNH821	42207	739000	0 9
PUGETCGN	35	0	*RO	6 181 8 182AANNNH821	165233	298507	1419
PUGETCGN	9	30	*C	4 179 4 182AANNNH822	68	739000	0 9
PUGETCGN	35	0	*RO	6 181 8 182AANNNH822	57513	298507	1419
PUGETCGN	25	30	RO	6 182 8 183AANNNH822	75760	298507	1419
D 06 CV	60	53	RA	1 678 4 378CVAPE781	86977	89360	4017
D 06 CV	60	53	*RA	1 678 4 378CVAPE782	2382	89360	4017
D 06 CV	59	41	RA	11 378 12979CVAPE791	73258	73258	3917
D 06 CV	60	61	RA	7 18210 182CVAPE822	59484	60000	4217
D 11 CV	61	51	RA	2 180 5 180CVAPM801	44312	60000	42 1
D 11 CV	61	51	*RA	2 180 5 180CVAPM802	15687	60000	42 1
D 11 CV	62	42	RA	1 281 4 181CVAPM811	59925	60000	41 1
D 11 CV	62	42	*RA	1 281 4 181CVAPM812	74	60000	41 1
D 11 CV	61	52	RA	9 18112 181CVAPM812	14731	60000	46 1
D 11 CV	61	52	*RA	9 18112 181CVAPM821	45268	60000	46 1
D 11 CV	62	43	RA	5 182 8 182CVAPM822	60000	60000	41 1
D 12 CV	43	41	RA	31080 71160CVAPM801	2096	10000	017
D 12 CV	43	41	*RA	31080 71160CVAPM802	7903	10000	017
NWPACCV	41	35	RA	71078 91178CVAPM782	40000	40000	4917

Unit 8 (Output) - DMAF Run Identification File

78 DMPPS SAMPLE RUN - FEB 1977
NE-D4 1104760FFICIAL USE
NW-D8 1220760FFICIAL USE
PE-D2 1009760FFICIAL USE
PH-D2 1007760FFICIAL USE

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Unit 9 (Output) - Non-Depot Maintenance File

SNEWSGN	39	2	F0	11	577	1	678AANPE781	0	0	0	1
SNEWSGN	40	2	F0	11	678	1	579AANPE791	6000	6000	0	1
SNEWSGN	41	2	F0	31780	51680AANPE801			618	5000	0	1
SNEWSGN	41	2*F0		31780	51680AANPE802			4381	5000	0	1
NORVACGN	39	3	PS	62678102578AANNE782				31554	35000	0	1
NORVACGN	39	3*PS		62678102578AANNE791				3445	35000	0	1
NORVACGN	40	3	PS	71679111679AANNE792				30588	45000	0	1
NORVACGN	40	3*PS		71679111679AANNE801				14411	45000	0	1
NORVACGN	41	3	PS	121580	32081AANNE811			45000	45000	0	1

2.2 PROGRAM ERRCHK

2.2.1 DESCRIPTION

The functions of the program ERRCHK are to re-number the records of the Depot Maintenance Assignment File (DMAF), to scan the records for errors in sequence number and/or percent alterations, and to determine the correct value for the continuation indicator. The DMAF which is input to ERRCHK is a sorted version of the file created by the program PRELIM. The sort is made on the following parameters, in the order listed:

- Ship type
- Hull number
- Availability start date (year, month, day)
- Sequence number
- Fiscal year (this record)
- Period (this record)

Each parameter is sorted in ascending order. This sort assures that all records describing a particular ship-availability will be adjacent on the file and that other records describing availabilities for the same ship will be chronologically ordered.

After the sort, the record numbers are no longer in ascending order. Therefore, ERRCHK re-numbers them, starting with one ("1") and incrementing by one for each subsequent record.

In addition, ERRCHK sets the value of the continuation indicator according to the following logic: The continuation indicator for the first record of a given ship-availability on DMAF should contain a blank. Subsequent records describing the same ship-availability should contain an asterisk ("*"). Since all records for any particular availability

appear together (after the sort), the program need only check the distinguishing parameters (i.e., ship type, hull number, availability dates, and type work) between the current record and its predecessor to determine the correct value for the continuation indicator.

In addition, ERRCHK examines the values for sequence number and percent alterations for each record on DMAF except those with the ship type field containing "UNOS" (Unscheduled/Other Shipwork), "UNSW" (Unscheduled Shipwork), "UNOW" (Other Shipwork), or "MAP" (Military Assistance Program). If an error is found in any of the other DMAF records, an error flag is set and subroutine ERROR is called to print out the appropriate error message. Table 2.2-1 presents the possible values for the error flag, the conditions under which they are set, and the error message printed out.

Figure 2.2-1 presents the hierarchical diagram of ERRCHK.

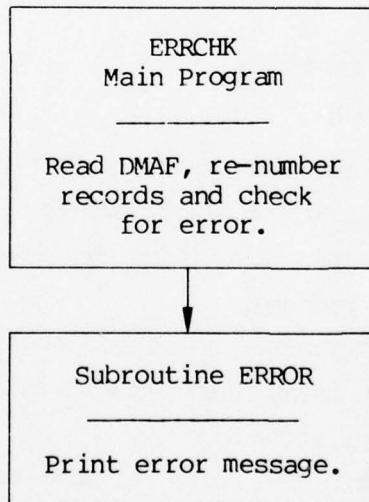


Figure 2.2-1 - ERRCHK Hierarchical Diagram

TABLE 2.2-1 - ERROR MESSAGES GENERATED BY ERRCHK

<u>Flag</u>	<u>Condition</u>	<u>Printed Message</u>
1	Sequence number is zero, negative, or blank.	INVALID SEQUENCE NUMBER
2	Percent alterations is zero and type of work is not one of the following: "NRT" - Naval Reserve Training "C" - Conversion "RA" - Restricted Availability "PS" or "PSA" - Post Shakedown "FO" - Fitting Out "NC" or "RNC" - New Construction	NO PERCENT ALT.
3	Percent alterations is negative.	PERCENT ALT. LESS THAN ZERO
4	Percent alterations exceeds 100.	PERCENT ALT. GREATER THAN 100

Main Program

The main program of ERRCHK is responsible for reading in the records of DMAF, assigning a revised record number, determining the correct value of the continuation indicator, and checking the percent alterations and sequence number fields for error. If an error is found, a flag is set and subroutine ERROR is called. The main program also writes the revised DMAF records on unit 2.

Subroutine ERROR

Subroutine ERROR prints out an error message (depending on the value of the error flag) and certain key parameters needed to identify the erroneous record (i.e., record number, ship, type work, availability dates, sequence number, and percent alterations).

2.2.2 RUN SET-UP

The following set-up is used to run the ERRCHK program on the IBM 360/370 computer:

```
//NVSEARCHK JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,10),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.DEPOT.LIB,DISP=SHR

// EXEC SDA                                     (SORT DMAF ONTO BACKUP FILE)
//SORTIN DD DSN=NVS01.DMAF0.DATA,DISP=SHR
//SORTOUT    DD DSN=NVS01.DMAF.BACKUP.DATA,DISP=SHR
//SYSIN DD *          SORT BY SHIP, HULL, START DATE, SEQ NO, FY
                     SORT FIELDS=(6,8,A,26,2,A,22,4,A,14,4,A,39,3,A),FORMAT=CH

// EXEC PGM=ERRCHK                                (EXECUTE PROGRAM ERRCHK)
//GO.FT05F001 DD *

[Box]
      ERRCHK card inputs (unit 5)

[Box]
      //GO.FT06F001 DD SYSOUT=A                      (LIST OF ERRORS)
      //GO.FT01F001 DD DSN=NVS01.DMAF.BACKUP.DATA,DISP=SHR   (INPUT FILE)
      //GO.FT02F001 DD DSN=NVS01.DMAF1.DATA,DISP=SHR        (OUTPUT FILE)
```

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2.2.3 INPUTS

Card inputs are made using unit 5. The format for these cards is presented in Section 2.2.3.1.

Unit 5 - Card input which provides run identification information

The following additional unit is used to input information from a disk file created by the program PRELIM:

Unit 1 - Depot Maintenance Assignment File, Version 0
(DMAF-0)

The format for this file is given in Section 2.2.3.2.

2.2.3.1 Unit 5 - Card Input

Only one card is input to ERRCHK. Its format is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
COMMNT(1-4)	Run identification	1-16	4A4

2.2.3.2 Unit 1 - Depot Maintenance Assignment File, Version 0 (DMAF-0)

DMAF-0 contains information describing all depot maintenance ship-availabilities scheduled for yard-work at both Navy and privately owned shipyards during the selected five-fiscal-year period. Depot maintenance availabilities are those availabilities with a type of work other than Fitting Out (FO), Post Shakedown (PS), or New Construction (NC).

Each semi-annual period of a fiscal year within which an availability falls, corresponds to a record on DMAF-0. Note that there may be more than one DMAF record for any particular availability.

The DMAF-0 file is sorted in ascending order by the following parameters:

- Ship type
- Hull number
- Availability start date (year, month, day)
- Sequence number
- Fiscal year (this record)
- Period (this record)

The format of each record in the DMAF-0 file is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
Y	Shipyard	1-5	A5
ISHIP	Ship type	6-9	A4
IHULL	Hull number	10-13	I4
ISEQ	Sequence number	14-17	I4
CONT	Continuation indicator	18	A1
AVAIL	Type work	19-21	A3
ISDATE(1-3)	Availability start date (month, day, year)	22-27	3I2
IEDATE(1-3)	Availability end date (month, day, year)	28-33	3I2
A(1-8)	Sector, mandays, matrix numbers, etc.	34-63	7A4,A2
IPCTA	Percent alterations	64-66	I3
B(1-3)	Labor distribution histogram number, sort key, etc.	67-76	2A4,A2

2.2.4 OUTPUTS

The following unit is used by ERRCHK for generating hardcopy output:

Unit 6 - Error messages

Section 2.2.7 presents a sample of this output.

ERRCHK uses the following additional unit to store information on disk for use by subsequent programs:

Unit 2 - Depot Maintenance Assignment File, Version 1
(DMAF-1)

The format for this file is given in Section 2.2.4.1.

2.2.4.1 Unit 2 - Depot Maintenance Assignment File, Version 1 (DMAF-1)

The format for each record is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
Y	Shipyard	1-5	A5
ISHIP	Ship type	6-9	A4
IHULL	Hull number	10-13	I4
ISEQ	Sequence number	14-17	I4
CONT	Continuation indicator	18	A1
AVAIL	Type work	19-21	A3
IDATE(1)	Availability start date (month, day, year)	22-27	I6
IDATE(2)	Availability end date (month, day, year)	28-33	I6
A(1-8)	Sector, mandays, matrix number, etc.	34-63	7A4,A2
IPCTA	Percent alterations	64-66	I3
B(1-3)	Labor distribution histogram number, sort key, etc.	67-76	2A4,A2
IREC	Record number	85-90	I6

A general description of this file is presented in Section 2.2.3.2.

2.2.5 PROGRAM LISTING

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```

*****PROGRAM ERRCHK(INRUT,OUTPUT,TAPES=INPUT,TAPE6=OUTPUT,TAPE1,TAPE2) *****
C
C
C      ERRCHK (ERROR CHECK) READS EACH DMAF RECORD AND PERFORMS THE
C FOLLOWING FUNCTIONS:
C
C      -RE-NUMBERS THE RECORDS.
C      -DETERMINES THE PROPER VALUE OF THE CONTINUATION INDICATOR AND
C      RESETS IT, IF NECESSARY.
C      -CHECKS SEQUENCE NUMBER AND PERCENT ALT. FOR NON-UNOS WORK AND
C      CALLS SUBROUTINE ERROR TO PRINT A MESSAGE IF AN ERROR IS FOUND.
C
C      ERRCHK ASSUMES THAT THE DMAF IS SORTED FIRST BY SHIP TYPE, THEN HULL
C NUMBER, THEN AVAILABILITY START DATE AND FINALLY BY FY AND PERIOD.
C
C      THE FOLLOWING UNITS ARE USED BY THE PROGRAM:
C
C      UNIT 1 - INPUT   - DEPOT MAINTENANCE ASSIGNMENT FILE (DMAF),
C                         VERSION 0
C      UNIT 2 - OUTPUT  - DMAF, VERSION 1 (WITH REVISED RECORD NUMBERS AND
C                         CORRECTED CONTINUATION INDICATORS)
C      UNIT 5 - INPUT   - CARD INPUT GIVING RUN IDENT.
C      UNIT 6 - OUTPUT  - LIST OF ERRORS ENCOUNTERED IN SEQUENCE NUMBER
C                         OR PERCENT ALT.
C
C      PROGRAMMED BY JAY MANDELBAUM, NAVAL SEA SYSTEMS COMMAND (CODE 0711).
C      AUGUST 1975.
C
C      REVISED BY LINDA L. LAMATRICE, NAVAL SHIP RESEARCH AND DEVELOPMENT
C CENTER (CODE 186), JULY 1976.
C
C -----
C
C      DIMENSION IDATE(2),IDATEP(2),A(8),B(3)
C
C      COMMON /MSSG/COMMNT(4),ISHIP,IHULL,ISEQ, AVAIL,ISDATE(3),
C                  IDEATE(3),IREC,IPCTA
C
C      REAL*8 Y
C
C      REAL ISHIP,ISHIPP,NC,MAP,NRT
C
C      DATA NC/3HNC/,FO/2HF0/, PS/2HPS/, PSA/3HPSA/, RNC/3HRNC/,
C      • UNSW/4HUNSW/, UNOW/4HUNOW/, MAP/3HHAP/, C/1HC/, RA/2HRA/,
C      • UNOS/4HUNOS/, NRT/3HNRT/
C
C      DATA BLANK/1H/,AST/1H*/
C
C -----
C
C      READ HEADING INFORMATION. -----
C          READ (5,90) COMMNT
C          90 FORMAT (4A4)
C
C -----INITIALIZE AND INCREMENT RECORD NUMBER. -----
C
ERRC 20
ERRC 30
ERRC 40
ERRC 50
ERRC 60
ERRC 70
ERRC 80
ERRC 90
ERRC 100
ERRC 110
ERRC 120
ERRC 130
ERRC 140
ERRC 150
ERRC 160
ERRC 170
ERRC 180
ERRC 190
ERRC 200
ERRC 210
ERRC 220
ERRC 230
ERRC 240
ERRC 250
ERRC 260
ERRC 270
ERRC 280
ERRC 290
ERRC 300
ERRC 310
ERRC 320
ERRC 330
ERRC 340
ERRC 350
ERRC 360
ERRC 370
ERRC 380
*** 390
ERRC 400
ERRC 410
ERRC 420
ERRC 430
ERRC 440
ERRC 450
ERRC 460
ERRC 470
ERRC 480
ERRC 490
ERRC 500
ERRC 510
ERRC 520
ERRC 530
ERRC 540
ERRC 550

```

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```

IREC=0          ERRC 560
C
C-----INITIALIZE PREVIOUS SHIP VARIABLES. -----
ISHIPP=BLANK    ERRC 570
IHULLP=0        ERRC 580
AVAILP=BLANK    ERRC 590
IDATEP(1)=0     ERRC 600
IDATEP(2)=0     ERRC 610
100 IREC=IREC+1 ERRC 620
ERRC 630
ERRC 640
ERRC 650
C
C-----READ RECORD AND WRITE IT WITH RECORD NUMBER-----
C**** READ (1,105)      Y,ISHIP,IHULL,ISEQ,CONT,AVAIL,IDATE,ISDATE,   **** 670
    READ (1,105,END=200) Y,ISHIP,IHULL,ISEQ,CONT,AVAIL,IDATE,ISDATE,   **** 680
    .     IDATE,A,IPCTA,B
    105 FORMAT (A5,A4,2I4,A1,A3,2I6,T22,6I2,7A4,A2,I3,2A4,A2)      ERRC 690
C**** IF (EOF(1).NE.0.0) GO TO 200
C
C-----DETERMINE PROPER VALUE OF CONTINUATION INDICATOR-----
CONT=AST         ERRC 700
IF (ISHIP.EQ.ISHIPP .AND. IHULL.EQ.IHULLP .AND. IDATE(1).EQ.   ERRC 710
    .     IDATEP(1) .AND. IDATE(2).EQ.IDATEP(2) .AND. AVAIL.EQ.AVAILP) ERRC 720
    .     GO TO 110
CONT=BLANK        ERRC 730
ISHIPP=ISHIP      ERRC 740
IHULLP=IHULL      ERRC 750
IDATEP(1)=IDATE(1) ERRC 760
IDATEP(2)=IDATE(2) ERRC 770
AVAILP=AVAIL      ERRC 780
110 WRITE (2,120)      Y,ISHIP,IHULL,ISEQ,CONT,AVAIL,IDATE,A,IPCTA, ERRC 790
    .     B,IREC
    120 FORMAT (A5,A4,2I4,A1,A3,2I6,           7A4,A2,I3,2A4,A2,T85,I6) ERRC 800
ERRC 810
ERRC 820
ERRC 830
ERRC 840
ERRC 850
ERRC 860
ERRC 870
C
C-----DO NOT ERROR CHECK UNOS WORK-----
IF (ISHIP.EQ.UNOW.OR.ISHIP.EQ.UNSH.OR.ISHIP.EQ.UNOS.OR.      ERRC 880
    A ISHIP.EQ.MAP) GO TO 100
ERRC 890
ERRC 900
ERRC 910
ERRC 920
ERRC 930
ERRC 940
ERRC 950
ERRC 960
ERRC 970
ERRC 980
ERRC 990
ERRC1000
ERRC1010
ERRC1020
ERRC1030
ERRC1040
ERRC1050
ERRC1060
ERRC1070
ERRC1080
ERRC1090
C
C-----FLAG INVALID UNSEQUENCED WORK-----
IF (ISEQ.LE.0) CALL ERROR(1)
C
C-----WRITE ERROR IF ALT PERCENT NEGATIVE OR LARGER THAN 100-----
IF (IPCTA.LT.0) CALL ERROR(3)
IF (IPCTA.GT.100) CALL ERROR(4)
C
C-----GO TO 1 IF ALT PERCENT MAY BE ZERO-----
IF (AVAIL.EQ.NRT .OR. AVAIL.EQ.C .OR. AVAIL.EQ.RA .OR.      ERRC 990
    .     AVAIL.EQ.NC .OR. AVAIL.EQ.FD .OR. AVAIL.EQ.PS .OR.
    B     AVAIL.EQ.PSA .OR. AVAIL.EQ.RNC) GO TO 100
ERRC1000
ERRC1010
ERRC1020
ERRC1030
ERRC1040
ERRC1050
ERRC1060
ERRC1070
ERRC1080
ERRC1090
C
C-----FLAG ZERO PERCENT ALT-----
IF (IPCTA.EQ.0) CALL ERROR(2)
GO TO 100
C
200 STOP
END

```

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```

C SUBROUTINE ERROR(IFLAG)
C
C SUBROUTINE ERROR PRINTS A MESSAGE FOR EACH DMAF RECORD WITH AN
C ERROR IN SEQUENCE NUMBER OR PERCENT ALT. THE MESSAGE PRINTED DEPENDS
C ON THE VALUE OF IFLAG:
C
C IFLAG  MESSAGE
C -----
C   1  INVALID SEQUENCE NUMBER
C   2  NO PERCENT ALT.
C   3  PERCENT ALT. LESS THAN ZERO
C   4  PERCENT ALT. GREATER THAN 100
C
C REAL ISHIP
C
C COMMON /MSG/COMMNT(4),ISHIP,IHULL,ISEQ, AVAIL,ISDATE(3),
C   IEDATE(3),IREC,IPCTA
C
C DATA IPAGE/0/,LINE/60/
C
C-----BEGIN NEW PAGE IF LINE COUNT EXCEEDS 55.
C
C      IF (LINE.LE.55) GO TO 110
C      IPAGE=IPAGE+1
C      WRITE (6,100) IPAGE,COMMNT
100 FORMAT (1H1/5X,15HREPORT DM-60-01,50X,4HPAGE,I3/5X,4A4/
C      . 5X,15HPROGRAM: ERRCHK/// ERRO 250
C      . 19X,38HPERCENT ALT. AND SEQUENCE NUMBER CHECK/19X,38(1H-)/// ERRO 260
C      . 13X,54H S H I P    TM    SEQ    AVAILABILITY DATES (ALT ERRO/ERRO 270
C      . 13X,54H-----    ---    ---    ----- /ERRO 280
C      .
C      LINE=14
C
C-----WRITE APPROPRIATE ERROR MESSAGE.
110 LINE=LINE+1
C      GO TO (120,140,160,180), IFLAG
C
C-----IFLAG=1
120 WRITE (6,130) IREC,ISHIP,IHULL, AVAIL,ISEQ,ISDATE,IEDATE,IPCTA
130 FORMAT (3X,I6,1H.,3X,A4,I5,3X,A3,I5,I4,2(1H/,I2),2H -,I3,2(1H/,I2))
C      ., I5,3X,23HINVALID SEQUENCE NUMBER) ERRO 410
C      RETURN ERRO 420
C
C-----IFLAG=2
140 WRITE (6,150) IREC,ISHIP,IHULL, AVAIL,ISEQ,ISDATE,IEDATE,IPCTA
150 FORMAT (3X,I6,1H.,3X,A4,I5,3X,A3,I5,I4,2(1H/,I2),2H -,I3,2(1H/,I2))
C      ., I5,3X,15HNO PERCENT ALT.) ERRO 430
C      RETURN ERRO 440
C
C-----IFLAG=3
160 WRITE (6,170) IREC,ISHIP,IHULL, AVAIL,ISEQ,ISDATE,IEDATE,IPCTA
170 FORMAT (3X,I6,1H.,3X,A4,I5,3X,A3,I5,I4,2(1H/,I2),2H -,I3,2(1H/,I2))
C      ., I5,3X,27HPERCENT ALT. LESS THAN ZERO) ERRO 450
C      RETURN ERRO 460
C
C-----IFLAG=4

```

```
180 WRITE (6,190) IREC,ISHIP,IHULL, AVAIL,ISEQ,ISDATE,IEDATE,IPTA    ERRO 600
190 FORMAT (3X,I6,1H.,3X,A4,I5,3X,A3,I5,I4,2(1H/,I2),2H -,I3,2(1H/,I2)ERRO 610
.,   I5,3X,29PERCENT ALT. GREATER THAN 100)                   ERRO 620
      RETURN                                         ERRO 630
      END                                           ERRO 640
```

2.2.6 GLOSSARY

COMMON VARIABLES

Common Block /MSSG/

AVAIL	Type of work for a particular ship-availability.
COMMNT(4)	Run identification information.
IEDATE(3)	Availability end date where the subscript refers to (1) month, (2) day, and (3) year.
IHULL	Ship's hull number.
IPCTA	The percent of production shop productive (PSP) mandays for alterations (for an availability).
IREC	Record number of current DMAF-1 record.
ISDATE(3)	Availability start date where the subscript refers to (1) month, (2) day, and (3) year.
ISEQ	Sequence number of an availability.
ISHIP	Ship type for an availability.

LOCAL VARIABLES

Main Program

A(8)	An array used to read and write a block of information from DMAF.
AST	Contains the character "*".
AVAILP	Type work for the previous availability.
B(3)	An array used to read and write a block of information from DMAF.
BLANK	A one-character blank space.
C	Contains the character "C".
CONT	Continuation indicator. Contains a blank for the first DMAF record for a ship-availability; contains an asterisk ("*") otherwise.
FO	Contains the characters "FO".
IDATE(2)	Availability start date and end date.
IDATEP(2)	Previous availability's start and end dates.
IHULLP	Hull number of the previous availability.
ISHIPP	Ship type of the previous availability.
MAP	Contains the characters "MAP".
NC	Contains the characters "NC".
NRT	Contains the characters "NRT".
PS	Contains the characters "PS".
PSA	Contains the characters "PSA".
RA	Contains the characters "RA".
RNC	Contains the characters "RNC".
UNOS	Contains the characters "UNOS".
UNOW	Contains the characters "UNOW".
UNSW	Contains the characters "UNSW".
Y	Shipyard for the current availability.

2.2.7 SAMPLE RUN

The DMAF-0 file created by the sample run of PRELIM formed the basis for the sample run of ERRCHK. A listing of this file is presented in Section 2.1.7 (unit 7). It is the input to the sort routine which precedes ERRCHK. The sorted version of DMAF-0 is listed in this section as are the other inputs to, and outputs from, ERRCHK.

Unit 5 (Input) - Input Cards

03/77-SAMPLE

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Unit 1 (Input) - Depot Maintenance Assignment File, Version 0 (Sorted)

PUGETCGN	9	30 C	4	179	4	182AANNW792	82471	739000	0 9
PUGETCGN	9	30*C	4	179	4	182AANNW801	163508	739000	0 9
PUGETCGN	9	30*C	4	179	4	182AANNW802	164152	739000	0 9
PUGETCGN	9	30*C	4	179	4	182AANNW811	163582	739000	0 9
PUGETCGN	9	30*C	4	179	4	182AANNW812	123009	739000	14 9
PUGETCGN	9	30*C	4	179	4	182AANNW821	42207	739000	0 9
PUGETCGN	9	30*C	4	179	4	182AANNW822	68	739000	0 9
PUGETCGN	25	24 RA	11579	31579AANNW791	30000	30000		20 1	
PUGETCGN	25	30 RO	6 182	8 183AANNW822	75760	298507		1419	
PUGETCGN	35	11 RA	11579	31579AANNW791	12000	12000		100 1	
PUGETCGN	35	C RO	6 181	8 182AANNW812	75760	298507		1419	
PUGETCGN	35	0*RO	6 181	8 182AANNW821	165233	298507		1419	
PUGETCGN	35	0*RO	6 181	8 182AANNW822	57513	298507		1419	
PUGETCGN	36	4 RA	11579	41679AANNW791	43925	47204		24 1	
PUGETCGN	36	4*RA	11579	41679AANNW792	3278	47204		24 1	
PUGETCGN	36	10 RO	41480	61481AANNW802	116368	278550		14 9	
PUGETCGN	36	10*RO	41480	61481AANNW811	144621	278550		14 9	
PUGETCGN	36	10*RO	41480	61481AANNW812	17560	278550		14 9	
NORVACGN	37	4 RA	62178	82278AANNE782	20400	20400		39 1	
NORVACGN	37	10 RO	1 281	3 582AANNE811	68369	278000		1413	
NORVACGN	37	10*RO	1 281	3 582AANNE812	161821	278000		1413	
NORVACGN	37	10*RO	1 281	3 582AANNE821	47808	278000		1413	
NORVACGN	38	4 RA	8 37910	279AANNE792	11955	12000		32 1	
NORVACGN	38	4*RA	8 37910	279AANNE801	44	12000		32 1	
NORVACGN	38	10 RO	7 182	9 283AANNE822	69808	278000		913	
PUGETCGN	39	4 RA	71579	91579AANNW792	12000	12000		100 1	
CHASNGCN	40	4 RA	5 182	7 182AANNE822	12000	12000		100 1	
NWPACCV	41	35 RA	71078	91178CVAPW782	40000	40000		4917	
PUGETCV	41	36 RA	111078	11179CVANW791	40000	40000		4817	
LBECHCV	41	40 RO	101280101281CVANW811	179097	396045		0 1		
LBECHCV	41	40*RO	101280101281CVANW812	215472	396045		0 1		
LBECHCV	41	40*PO	101280101281CVANW821	1474	396045		0 1		
LBECHCV	43	40 RO	113077112978CVANW781	124004	342067		1724		
LBECHCV	43	40*RO	113077112978CVANW782	199985	342067		1724		
LBECHCV	43	40*RO	113077112978CVANW791	18076	342067		1724		
D 12 CV	43	41 RA	31080	71180CVAPW801	2096	10000		017	
D 12 CV	43	41*RA	31080	71180CVAPW802	7903	10000		017	
D 06 CV	59	41 RA	11 378	12979CVAPE791	73258	73258		3917	
NORVACV	59	42 RA	5 380	72900CVANE802	60000	60000		4317	
NORVACV	59	43 RA	10 181	1 182CVANE821	60000	60000		4417	
D 06 CV	60	53 RA	1 678	4 378CVAPE781	86977	89360		4017	
D 06 CV	60	53*RA	1 678	4 378CVAPE782	2382	89360		4017	
NORVACV	60	60 RO	4207912	179CVANE792	194944	240000		4723	
NORVACV	60	50*PO	4207912	179CVANE801	45055	240000		4723	
D 06 CV	60	61 RA	7 18210	182CVAPE822	59484	60000		4217	
PUGETCV	61	50 PO	21577	21578CVANW781	111606	443300		3824	
D 11 CV	61	51 RA	2 180	5 180CVAPW801	44312	60000		42 1	
D 11 CV	61	51*RA	2 180	5 180CVAPW802	15687	60000		42 1	
D 11 CV	61	52 RA	9 18112	181CVAPW812	14731	60000		46 1	
D 11 CV	61	52*RA	9 18112	181CVAPW821	45268	60000		46 1	
NORVACV	62	40 RO	112177101978CVANE781	140469	346352		4123		
NORVACV	62	40*RO	112177101978CVANE782	199596	346352		4123		
NORVACV	62	40*RO	112177101978CVANE791	6286	346352		4123		
NORVACV	62	41 RA	9 179112679CVANE792	29389	69170		4217		
NORVACV	62	41*RA	9 179112679CVANF801	39780	69170		4217		
D 11 CV	62	42 RA	1 281	4 181CVAPW811	59925	60000		41 1	
D 11 CV	62	42*RA	1 281	4 181CVAPW812	74	60000		41 1	
D 11 CV	62	43 RA	5 182	8 182CVAPW822	60000	60000		41 1	

Unit 6 (Output) - ERRCHK Printed Output

REPORT DM-60-01
03/77-SAMPLE
PROGRAM: ERRCHK

PAGE 1

PERCENT ALT. AND SEQUENCE NUMBER CHECK

	S H I P	T W	SEQ	AVAILABILITY DATES	1ALT	ERROR
11.	CGN	35	R0	0	6/ 1/81 -	8/ 1/82
12.	CGN	35	R0	0	6/ 1/81 -	8/ 1/82
13.	CGN	35	R0	0	6/ 1/81 -	8/ 1/82
30.	CV	41	R0	40	10/12/80 -	10/12/81
31.	CV	41	R0	40	10/12/80 -	10/12/81
32.	CV	41	R0	40	10/12/80 -	10/12/81

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Unit 2 (Output) - Depot Maintenance Assignment File, Version 1

PUGETCGN	9	30 C	40179	40182AANNM792	82471	739000	0 9	1
PUGETCGN	9	30*C	40179	40182AANNM801	163508	739000	0 9	2
PUGETCGN	9	30*C	40179	40182AANNM802	164152	739000	0 9	3
PUGETCGN	9	30*C	40179	40182AANNM811	163582	739000	0 9	4
PUGETCGN	9	30*C	40179	40182AANNM812	123009	739000	14 4	5
PUGETCGN	9	30*C	40179	40182AANNM821	42207	739000	0 9	6
PUGETCGN	9	30*C	40179	40182AANNM822	68	739000	0 4	7
PUGETCGN	25	24 RA	11579	31579AANNM791	30000	30000	20 1	8
PUGETCGN	25	30 RO	60182	80183AANNM822	75760	298507	1419	9
PUGETCGN	35	11 RA	11579	31579AANNM791	12000	12000	100 1	10
PUGETCGN	35	0 RO	60181	80182AANNM812	75760	298507	1419	11
PUGETCGN	35	0*RO	60181	80182AANNM821	165233	298507	1414	12
PUGETCGN	35	0*RO	60181	80182AANNM822	57513	298507	1419	13
PUGETCGN	36	4 RA	11579	41679AANNM791	48925	47204	24 1	14
PUGETCGN	36	4*RA	11579	41679AANNM792	3278	47204	24 1	15
PUGETCGN	36	10 RO	41480	61481AANNM802	116368	278550	14 9	16
PUGETCGN	36	10*RO	41480	61481AANNM811	144621	278550	14 9	17
PUGETCGN	36	10*RO	41480	61481AANNM812	17560	278550	14 9	18
NORVACGN	37	4 RA	62178	82278AANNE782	20400	20400	39 :	19
NORVACGN	37	10 RO	10281	30582AANNE811	68369	278000	1413	20
NORVACGN	37	10*RO	10281	30582AANNE812	161821	278000	1413	21
NORVACGN	37	10*RO	10281	30582AANNE821	47808	278000	1413	22
NORVACGN	38	4 RA	80379100279AANNE792	11955	12000	32 1	23	
NORVACGN	38	4*RA	80379100279AANNE801	44	12000	32 1	24	
NORVACGN	38	10 RO	70182	90283AANNE822	69808	278000	913	25
PUGETCGN	39	4 RA	71579	91579AANNM792	12000	12000	100 1	26
CHASWCGN	40	4 RA	50182	70182AANNE822	12000	12000	100 1	27
NWPACCV	41	35 RA	71078	91178CVAPM782	40000	48000	4917	28
PUGETCV	41	36 RA	111078	11179CVANNM791	40000	40000	4817	29
LBECHCV	41	40 RO	101280101281CVANNM811	179097	396045	0 1	30	
LBECHCV	41	40*RO	101280101281CVANNM812	215472	396045	0 1	31	
LBECHCV	41	40*RO	101280101281CVANNM821	1474	396045	0 1	32	
LBECHCV	43	40 RO	113077112978CVANNM781	124004	342067	1724	33	
LBECHCV	43	40*RO	113077112978CVANNM782	199985	342067	1724	34	
LBECHCV	43	40*RO	113077112978CVANNM791	18076	342067	1724	35	
D 12 CV	43	41 RA	31080	71180CVAPM801	2096	10000	017	36
D 12 CV	43	41*RA	31080	71180CVAPM802	7903	10000	017	37
D 06 CV	59	41 RA	110378	12979CVAPE791	73258	73258	3917	38
NORVACV	59	42 RA	50380	72980CVANE802	60000	60000	4317	39
NORVACV	59	43 RA	100181	10182CVANE821	60000	60000	4417	40
D 06 CV	60	53 RA	10678	40378CVAPE781	86977	89360	4017	41
D 06 CV	60	53*RA	10678	40378CVAPE782	2382	89360	4017	42
NORVACV	60	60 RO	42079120179CVANE792	194944	240000	4723	43	
NORVACV	60	60*RO	42079120179CVANE801	45055	240000	4723	44	
D 06 CV	60	61 RA	70182100182CVAPE822	59485	60000	4217	45	
PUGETCV	61	50 RO	21577	21578CVANNM781	111606	443300	3824	46
D 11 CV	61	51 RA	20180	50180CVAPM801	44312	60000	42 1	47
D 11 CV	61	51*RA	20180	50180CVAPM802	15687	60000	42 1	48
D 11 CV	61	52 RA	90181120181CVAPM812	14731	60000	46 1	49	
D 11 CV	61	52*RA	90181120181CVAPM821	45268	60000	46 1	50	
NORVACV	62	40 RO	112177101978CVANE781	140469	346352	4123	51	
NORVACV	62	40*RO	112177101978CVANE782	199596	346352	4123	52	
NORVACV	62	40*RO	112177101978CVANE791	6286	346352	4123	53	
NORVACV	62	41 RA	90179112679CVANE792	29389	69170	4217	54	
NORVACV	62	41*RA	90179112679CVANE801	39780	69170	4217	55	
D 11 CV	62	42 RA	10281	40181CVAPM811	59925	60000	41 1	56
D 11 CV	62	42*RA	10281	40181CVAPM812	74	60000	41 1	57
D 11 CV	62	43 RA	50182	80182CVAPM822	60000	60000	41 1	58

2.3 PROGRAM UPDEP

2.3.1 DESCRIPTION

The program UPDEP is used to alter the Depot Maintenance Assignment File (DMAF). The updating process may consist of adding records, deleting records, or replacing one or more data items or entire records. In addition to these operations, UPDEP resequences the record numbers on the file.

Update cards are used to specify which record is to be revised as well as which fields are to be changed. Each update command consists of two or more cards: an instruction card, and a data card containing the replacement values. Deletions require only one card. The instruction names and the commands that they signify are as follows:

- *NSRT - used for inserting one or more records
- *DELT - used for deleting one or more records
- *REPL - used for replacing one or more values or an entire record

The insertion command requires the record number after which records are to be inserted. Any number of records may be inserted. The terminator is the next instruction card.

The deletion command requires the first and last record number of the sequence to be deleted. In the case of a single deletion, the last record number may be omitted.

To replace one or more values or an entire record, the number of the record that is being changed is required. The replace command may be used to replace the same value or values in a series of records. It will then require the first and last record number of the sequence on the instruction card.

All update instruction cards must be in ascending order by record number. A replace command cannot reference a record previously deleted.

The data card containing the replacement values consists of a card image of the record to be updated. If a field on the update card is

blank, the corresponding field on the new DMAF is not changed. If a field on the update card is non-blank, the information in the corresponding field of the DMAF is replaced with that on the update card. If the first character of a field on the update card is a "\$" and the remainder of the field is blank, the corresponding field on the new DMAF is blank filled.

An update deck is terminated with a "99999" card, and the new DMAF is automatically resequenced by ones. The DMAF to be changed or updated resides on unit 8, and the new or updated DMAF is written on unit 9. Update control cards are assigned to unit 5 and error messages are written on unit 6.

2.3.2 RUN SET-UP

The following set-up is used to run the UPDEP program on the IBM 360/370 computer:

```
//NVSUPDEP JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(,20),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.DEPOT.LIB,DISP=SHR
// EXEC PGM=UPDEP
//GO.FT05F001 DD *

[  
    UPDEP card inputs (unit 5)  
]

//GO.FT06F001 DD SYSOUT=A                      (ERROR MESSAGES)
//GO.FT08F001 DD DSN=NVS01.DMAF1.DATA,DISP=SHR   (INPUT FILE)
//GO.FT09F001 DD DSN=NVS01.DMAF.BACKUP.DATA,DISP=SHR (OUTPUT FILE)

// EXEC PGM=IEBGENER                           (COPY DMAF FROM BACKUP)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN=NVS01.DMAF.BACKUP.DATA,DISP=SHR
//SYSUT2 DD DSN=NVS01.DMAF1.DATA,DISP=SHR
```

2.3.3 INPUTS

Card inputs to UPDEP are made using unit 5. The format for these cards is given in Section 2.3.3.1.

Unit 5 - Card inputs which (1) determine the type of change to be made and identify the record number, (2) give replacement values, (3) terminate the input data.

The following additional unit is used to input information from a disk file:

Unit 8 - Depot Maintenance Assignment File (DMAF)

The format for this file is given in Section 2.3.3.2.

2.3.3.1 Unit 5 - Card Inputs

There are two types of update cards: a type A card which describes the instruction and gives record numbers, and a type B card which contains replacement data. An Update Deck Terminator card follows the last type B card. The format for the type A update card is as follows:

Type A Update Card

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
IDENT	Identification instruction	1-5	A5
IREC1	First record number	10-13	I4
IREC2	Last record number	14-17	I4

The format for second of the pair of cards in the update deck is as follows:

Type B Update Card

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
UFIELD(1)	Yard	1-5	A5
UFIELD(2)	Ship type	6-9	A4
UFIELD(3)	Hull number	10-13	A4
UFIELD(4)	Sequence Number	14-17	A4
UFIELD(5)	Continuation indicator	18	A1
UFIELD(6)	Type work	19-21	A3
UFIELD(7)	Availability start date (mo/dy/yr)	22-27	A6
UFIELD(8)	Availability end date (mo/dy/yr)	28-33	A6
UFIELD(9)	Specialization category	34-36	A3
UFIELD(10)	Sector	37-38	A2
UFIELD(11)	Fiscal year (this record)	39-40	A2
UFIELD(12)	Period (this year)	41	A1
UFIELD(13)	PSP mandays this period	42-48	A7

Type B Update Card (Continued)

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
UFIELD(14)	Total PSP mandays	49-55	A7
UFIELD(15)	Repair matrix number	56-59	A4
UFIELD(16)	Alterations matrix number	60-63	A4
UFIELD(17)	Percent of PSP mandays for alterations	64-66	A3
UFIELD(18)	Labor distribution histogram number	67-68	A2
UFIELD(19)	Sort key	74-76	A3

The format for the terminator card (the last card of the update deck) is as follows:

Update Deck Terminator Card

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
ISTOP	Terminator (Must contain the characters "99999".)	1-5	A5

2.3.3.2 Unit 8 - Depot Maintenance Assignment File (DMAF)

The format for the Depot Maintenance Assignment File (DMAF) is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
DFIELD(1)	Yard	1-5	A5
DFIELD(2)	Ship type	6-9	A4
DFIELD(3)	Hull number	10-13	A4
DFIELD(4)	Sequence Number	14-17	A4
DFIELD(5)	Continuation indicator	18	A1
DFIELD(6)	Type work	19-21	A3
DFIELD(7)	Availability start date (mo/dy/yr)	22-27	A6
DFIELD(8)	Availability end date (mo/dy/yr)	28-33	A6
DFIELD(9)	Specialization category	34-36	A3
DFIELD(10)	Sector	37-38	A2
DFIELD(11)	Fiscal year (this record)	39-40	A2
DFIELD(12)	Period (this year)	41	A1
DFIELD(13)	PSP mandays this period	42-48	A7
DFIELD(14)	Total PSP mandays	49-55	A7
DFIELD(15)	Repair matrix number	56-59	A4
DFIELD(16)	Alterations matrix number	60-63	A4
DFIELD(17)	Percent of PSP mandays for alterations	64-66	A3
DFIELD(18)	Labor distribution histogram number	67-68	A2
DFIELD(19)	Sort key	74-76	A3
IRECOR	Record number	85-90	I6

2.3.4 OUTPUTS

The following unit is used by UPDEP for generating hardcopy output:

Unit 6 - Error messages and summary of replacement record

Section 2.3.7 presents a sample of this output.

The following additional unit is used by UPDEP to store information on disk for use by subsequent programs:

Unit 9 - The Revised Depot Maintenance Assignment File

The format for this file is described in Section 2.3.4.1.

2.3.4.1 Unit 9 - Revised Depot Maintenance Assignment File (DMAF)

The format for each record is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
DFIELD(1)	Yard	1-5	A5
DFIELD(2)	Ship type	6-9	A4
DFIELD(3)	Hull number	10-13	A4
DFIELD(4)	Sequence Number	14-17	A4
DFIELD(5)	Continuation indicator	18	A1
DFIELD(6)	Type work	19-21	A3
DFIELD(7)	Availability start date (mo/dy/yr)	22-27	A6
DFIELD(8)	Availability end date (mo/dy/yr)	28-33	A6
DFIELD(9)	Specialization category	34-36	A3
DFIELD(10)	Sector	37-38	A2
DFIELD(11)	Fiscal year (this record)	39-40	A2
DFIELD(12)	Period (this year)	41	A1
DFIELD(13)	PSP mandays this period	42-48	A7
DFIELD(14)	Total PSP mandays	49-55	A7
DFIELD(15)	Repair matrix number	56-59	A4
DFIELD(16)	Alterations matrix number	60-63	A4
DFIELD(17)	Percent of PSP mandays for alterations	64-66	A3
DFIELD(18)	Labor distribution histogram number	67-68	A2
DFIELD(19)	Sort key	74-76	A3
IREC	Resequenced record number	85-90	A6

2.3.5 PROGRAM LISTING

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```

*****PROGRAM UPDEP(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE8,TAPE9) **** 10
C   PROGRAM UPDEP IS A REVISION OF ONE WRITTEN BY DAN ALLEN UPDP 20
C   ITS PURPOSE IS TO INSERT, DELETE OR REPLACE VALUES OR RECORDS UPDP 30
C   ON THE DMAF FILE UPDP 40
C   REVISED SEPT 1975 BY JEAN ST LAURENT UPDP 50
C                                         UPDP 60
C   UNIT 5 - INPUT - UPDATE CONTROL CARDS UPDP 70
C   UNIT 6 - OUTPUT - ERROR MESSAGES ARE WRITTEN ON THIS UNIT UPDP 80
C   UNIT 8 - INPUT - OLD DMAF RESIDES ON THIS UNIT UPDP 90
C   UNIT 9 - OUTPUT - UPDATED DMAF IS WRITTEN ON THIS UNIT UPDP 100
C                                         UPDP 110
C   EACH INSERT, DELETE AND REPLACE COMMAND CONSISTS OF TWO UPDP 120
C   OR MORE CARDS UPDP 130
C   AN INSTRUCTION CARD - *NSRT, *DELT, *REPL WITH IDENTIFYING UPDP 140
C   RECORD NUMBER AND A CARD IMAGE OF THE RECORD CONTAINING UPDP 150
C   ONLY THE REPLACEMENT VALUE OR VALUES UPDP 160
C   IF THE 1ST CHARACTER OF A FIELD ON THE UPDATE CARD IS A $ SIGN, UPDP 170
C   THE CORRESPONDING FIELD ON THE DMAF IS BLANK FILLED UPDP 180
C   THERE SHOULD BE ONE CARD FOR EACH ALTERED RECORD UPDP 190
C                                         UPDP 200
C   TO INSERT A RECORD OR RECORDS - USE *NSRT AND THE RECORD NUMBER UPDP 210
C   AFTER WHICH RECORDS ARE TO BE INSERTED UPDP 220
C   TO DELETE A RECORD - USE *DELT WITH 1ST AND LAST RECORD NUMBER UPDP 230
C   OF THE SEQUENCE TO BE DELETED UPDP 240
C   TO REPLACE A RECORD - USE *REPL AND THE RECORD NUMBER THAT UPDP 250
C   IT IS REPLACING UPDP 260
C   AUTOMATIC RESEQUENCING IS DONE ON THE NEW DMAF UPDP 270
C                                         UPDP 280
C   ALL UPDATE CONTROL CARDS MUST BE IN ASCENDING ORDER IN RECORD NO. UPDP 290
C                                         UPDP 300
C   THIS UPDATE DECK TERMINATES WITH A 99999 CARD UPDP 310
C                                         UPDP 320
C*****INTEGER UFIELD(19), DFIELD(19), FSTCHR(19) **** 330
C   DIMENSION UFIELD(19), DFIELD(19), FSTCHR(19) **** 340
C   REAL*8 ISIGN,IBLANK,INS,IDEI,IREP,ISTOP,DFIELD, UFIELD, FSTCHR **** 350
C   REAL*8 IDENT **** 360
C   DATA ISIGN /1H/, IBLANK/1H /, INS /5H*NSRT/, IDEL/5H*DELT/, UPDP 370
C   1 IREP/5H*REPL/, ISTOP/5H99999/ UPDP 380
C                                         UPDP 390
C   INITIAL CONDITIONS UPDP 400
C   IREC = 0 UPDP 410
C   DO 2 I = 1,19 UPDP 420
C*****UFIELD(I) = 0 **** 430
C*****FSTCHR(I) = 0 **** 440
C*****DFIELD(I) = 0 **** 450
C   UFIELD(I) = 0.0 **** 460
C   FSTCHR = 0.0 **** 470
C   DFIELD(I) = 0.0 **** 480
C   2 CONTINUE UPDP 490
C   WRITE HEADING UPDP 500
C   WRITE(6,1010) UPDP 510
C   READ UPDATE CARDS UPDP 520
C   5 READ(5,1000) IDENT, IREC1, IREC2 UPDP 530
C                                         UPDP 540
C                                         UPDP 550

```

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```

C      CHECK FOR LAST CARD
IF(IDENT.EQ.ISTOP) GO TO 85
IF(IDENT.EQ.IINS) GO TO 15
IF(IDENT .EQ.IDEL) GO TO 20
IF(IDENT.EQ.IREP) GO TO 25
GO TO 80
15 J = 1
GO TO 30
20 J = 2
GO TO 28
25 J = 3
28 NREC = (IREC2 - IREC1) + 1
IF(IREC2.EQ.0) NREC = 1
IF(NREC.LE.0) GO TO 110
IF(J.EQ.2) GO TO 35
C      READ UPDATE INFORMATION
30 READ(5,1001) (UFIELD(I),I=1,19), (FSTCHR(N),N=1,19)
C      READ OLD DMAF
C**35 READ(8,1002) (DFIELD(I),I=1,19), IRECOR
35 READ(8,1002,END=90) (DFIELD(I),I=1,19), IRECOR
C      CHECK FOR EOF
C*****IF (EOF(8) .NE. 0) GO TO 90
IF(IRECOR - IREC1) 75,40,80
C
40 GO TO (45, 55, 65), J
C      INSERT NEW RECORDS  (J=1)
45 IREC = IREC + 1
WRITE(9,1002) (DFIELD(I),I=1,19), IREC
48 DO 50 I = 1, 19
IF(UFIELD(I) .EQ. IBANK) GO TO 50
DFIELD(I) = UFIELD(I)
IF(FSTCHR(I) .EQ. ISIGN) DFIELD(I) = IBANK
50 CONTINUE
IREC = IREC + 1
WRITE(9,1002) (DFIELD(I),I=1,19), IREC
WRITE(6,1007) (DFIELD(I),I=1,19), IREC
READ(5,1001) (UFIELD(I),I=1,19),(FSTCHR(N),N=1,19)
IF(UFIELD(1).EQ.ISTOP) GO TO 85
IF(UFIELD(1).EQ.IINS .OR. UFIELD(1).EQ.IDEL .OR. UFIELD(1).EQ.IREP) UPDP 960
1   GO TO 52
GO TO 48
52 BACKSPACE 5
GO TO 5
C      DELETE RECORDS BY READING AND THROWING AWAY  (J=2)
55 IF(NREC.EQ.1) GO TO 5
DO 60 K = 2, NREC
C*****READ(8,1002) (DFIELD(I),I=1,19), IRECOR
READ(8,1002,END=90) (DFIELD(I),I=1,19), IRECOR
C*****IF(EOF(8).NE.0) GO TO 90
60 CONTINUE
GO TO 5
C      REPLACE VALUES OR ENTIRE RECORDS      (J=3)
65 DO 72 L = 1,NREC
WRITE(6,1008) (DFIELD(I),I=1,19), IRECOR
DO 70 I=1,19
IF(UFIELD(I) .EQ. IBANK) GO TO 70
UPDP 560
UPDP 570
UPDP 580
UPDP 590
UPDP 600
UPDP 610
UPDP 620
UPDP 630
UPDP 640
UPDP 650
UPDP 660
UPDP 670
UPDP 680
UPDP 690
UPDP 700
UPDP 710
UPDP 720
UPDP 730
UPDP 740
**** 750
**** 760
UPDP 770
**** 780
UPDP 790
UPDP 800
UPDP 810
UPDP 820
UPDP 830
UPDP 840
UPDP 850
UPDP 860
UPDP 870
UPDP 880
UPDP 890
UPDP 900
UPDP 910
UPDP 920
UPDP 930
UPDP 940
UPDP 950
UPDP 960
UPDP 970
UPDP 980
JPDP 990
UPDP1000
UPDP1010
UPDP1020
UPDP1030
UPDP1040
****1050
****1060
****1070
UPDP1080
UPDP1090
UPDP1100
UPDP1110
UPDP1120
UPDP1130
UPDP1140
UPDP1150

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C      DFIELD(I) = UFIELD(I)                                UPDP1160
      IF $ IN FIELD, BLANK FILL                            UPDP1170
      IF(FSTCHR(I) .EQ. ISIGN) DFIELD(I) = IBLANK          UPDP1180
70    CONTINUE                                              UPDP1190
      IREC = IREC + 1                                       UPDP1200
      WRITE(9,1002) (DFIELD(I),I=1,19), IREC              UPDP1210
      WRITE(6,1009) (DFIELD(I),I=1,19),IRECOR,IREC        UPDP1220
      IF(L.EQ.NREC) GO TO 5                               UPDP1230
C*****READ(8,1002) (DFIELD(I),I=1,19), IRECOR          ****1240
      READ(8,1002,END=90) (DFIELD(I),I=1,19), IRECOR       ****1250
C      CHECK FOR EOF                                     UPDP1260
C*****IF (EOF(8) .NE. 0) GO TO 90                      ****1270
      72 CONTINUE                                            UPDP1280
      GO TO 5                                              UPDP1290
C      COPY OLD DMAF TO NEW FILE UNCHANGED                UPDP1300
      75 IREC = IREC + 1                                     UPDP1310
      WRITE(9,1002) (DFIELD(I),I=1,19), IREC              UPDP1320
      GO TO 35                                             UPDP1330
C      ERROR PRINTOUT                                    UPDP1340
      80 WRITE(6,1003) (UFIELD(I),I=1,19), IREC1           UPDP1350
      IREC = IREC + 1                                       UPDP1360
      WRITE(9,1002) (DFIELD(I),I=1,19), IREC              UPDP1370
      GO TO 5                                              UPDP1380
C
C      TERMINAL CARD OF UPDATES - REMAINING RECORDS ARE COPIED
C**85 READ(8,1002) (DFIELD(I),I=1,19), IRECOR          UPDP1400
C*****IF(EOF(8) .NE. 0) GO TO 100                      ****1410
      85 READ(8,1002,END=100) (DFIELD(I),I=1,19), IRECOR   ****1420
      IREC = IREC + 1                                       UPDP1430
      WRITE(9,1002) (DFIELD(I),I=1,19), IREC              UPDP1440
      GO TO 85                                             UPDP1450
      110 WRITE(6,1006) IREC1, IREC2                      UPDP1460
      GO TO 5                                              UPDP1470
      90 WRITE(6,1004)
100    CONTINUE                                           UPDP1480
      STOP                                                 UPDP1490
1000 FORMAT(A5,4X,?I4)                                  UPDP1500
1001 FORMAT(A5,A4,2A4,A1,A3,2A6,A3,A2,A2,A1,2A7,2A4,A3,A2,5X,A3,4X) UPDP1530
1     T1,A1,T6,A1,T10,A1,T14,A1,T18,A1, T19,A1, T22,A1,T28,A1, T34,A1,UPDP1540
2     T37,A1,T39,A1, T41,A1,T42,A1,T49,A1,T56,A1, T60,A1,T64,A1,T67, UPDP1550
3     A1,T74,A1                                         UPDP1560
1002 FORMAT(A5,A4,2A4,A1,A3,2A6,A3,A2,A2,A1,2A7,2A4,A3,A2,5X,A3,8X,I6) UPDP1570
1003 FORMAT(1X,41H*** UPDATE ERROR - RECORD NOT IN FILE ***/, UPDP1580
1     A5,A4,2A4,A1,A3,2A6,A3,A2,A2,A1,2A7,2A4,A3,A2,5X,A3,8X,I6) UPDP1590
1004 FORMAT(1X,54H*** UPDATE ERROR - EOF ENCOUNTERED ON OLD DATA SET **UPDP1600
1*)
1006 FORMAT(1X, 16HINPUT CARD ERROR, 2X, 8HREC 1 = , I4, 2X, UPDP1610
1     8HREC 2 = , I4)                                   UPDP1620
1007 FORMAT(1H , 5X, A5, 2X, A4, 1X, 2(A4,2X), A1, A3, 2(2X,A6), 2X, UPDP1630
1     A3, 2(2X,A2),          2X, A1, 2(2X,A7), 2(2X,A4), 2X, A3, 2X, A2, UPDP1640
2     2X, A3, 10X, I6, 2X, 1HI )                      UPDP1650
1008 FORMAT(1H , 5X, A5, 2X, A4, 1X, 2(A4,2X), A1, A3, 2(2X,A6), 2X, UPDP1660
1     A3, 2(2X,A2),          2X, A1, 2(2X,A7), 2(2X,A4), 2X, A3, 2X, A2, UPDP1670
2     2X, A3, 2X, I6, 11X, 1HD )                      UPDP1680
1009 FORMAT(1H , 5X, A5, 2X, A4, 1X, 2(A4,2X), A1, A3, 2(2X,A6), 2X, UPDP1690
1     A3, 2(2X,A2),          2X, A1, 2(2X,A7), 2(2X,A4), 2X, A3, 2X, A2, UPDP1700
2     2X, A3, 2X, I6, 2X, I6, 2X, 1HI )               UPDP1710
1010 FORMAT(1H1, 47X, 38HSUMMARY OF REPLACEMENT RECORDS ON DMAF, // UPDP1720
1     114X, 3HOLD, 6X, 3HNEW /, 112X, 6HREC NO , 3X, 6HREC NO ) UPDP1730
      END                                               UPDP1740
                                                UPDP1750

```

2.3.6 GLOSSARY

LOCAL VARIABLES

Main Program

DFIELD(19)	An array of data for one DMAF record; see Section 2.3.3.2.
FSTCHR(19)	An array of the first character of each field of the update record; see Section 2.3.3.1.
I	An index for I/O statements.
IBLANK	A one-character blank space.
IDEL	Variable which contains the characters "DELT".
IDENT	Variable used to test for type of update instruction.
INS	Variable which contains the characters "NSRT".
IREC	Record number of the revised DMAF file.
IRECOR	Record number on DMAF prior to revision.
IREC1	First record number read from an update instruction card; indicates record at which update begins.
IREC2	Second record number read from an update instruction card; indicates last record of the sequence to be altered.
IREP	Variable which contains the characters "REPL".
ISIGN	Variable which contains the character "\$" which designates replacing the field with blanks.
ISTOP	Variable which contains the characters "99999".
J	Flag set to determine the type of update instruction: Flag set to "1" if inserting new records. Flag set to "2" if deleting records. Flag set to "3" if replacing values or entire records.
K	Index for deleting records.
L	Index used for DO-loop.
N	Index for I/O statements.
NREC	Number of sequential records to be updated.
UFIELD	An array of update data; see Section 2.3.3.1.

2.3.7 SAMPLE RUN

Card inputs (unit 5) for the sample run requested that the sequence number of all availabilities on the Depot Maintenance Assignment File (DMAF) for the CGN 35 be changed from 0 to 20. This was accomplished by using the replace command, *REPL, and the corresponding record numbers. For records 11 thru 13, the correct value of the sequence number was punched in the appropriate fields. The other alteration to DMAF was to change the values for percent alterations for all availabilities on the CV 41. Inputs requested substituting the value "21" on records 30 thru 32.

A summary of replacement records (unit 6) shows records that were deleted, noted by the letter "D," and replacement or inserted records, noted by the letter "I". When records were simply inserted, the file was resequenced by ones; therefore the old and new record numbers differed.

The output of program UPDEP consists of a Revised Depot Maintenance Assignment File (DMAF) and is written on unit 9.

Unit 5 - Card Inputs

*REPL	11	13
		20
*REPL	30	32
	99999	

21

Unit 6 – Summary of Replacement Records

SUMMARY OF REPLACEMENT RECORDS ON DMAF

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Unit 9 - Revised Depot Maintenance Assignment File

PUGETCGN	9	30 C	40179	40182AANNW792	82471	739000	0 9	1
PUGETCGN	9	30°C	40179	40182AANNW801	163508	739000	0 9	2
PUGETCGN	9	30°C	40179	40182AANNW802	164152	739000	0 9	3
PUGETCGN	9	30°C	40179	40182AANNW811	163582	739000	0 9	4
PUGETCGN	9	30°C	40179	40182AANNW812	123009	739000	14 5	5
PUGETCGN	9	30°C	40179	40182AANNW821	42207	739000	0 9	6
PUGETCGN	9	30°C	40179	40182AANNW822	68	739000	0 9	7
PUGETCGN	25	24 RA	11579	31579AANNW791	30000	30000	20 1	8
PUGETCGN	25	30 RO	60182	80183AANNW822	75760	298507	1419	9
PUGETCGN	35	11 RA	11579	31579AANNW791	12000	12000	100 1	10
PUGETCGN	35	0 RO	60181	80182AANNW812	75760	298507	1419	11
PUGETCGN	35	0*RO	60181	80182AANNW821	165233	298507	1419	12
PUGETCGN	35	0*RO	60181	80182AANNW822	57513	298507	1419	13
PUGETCGN	36	4 RA	11579	41679AANNW791	48925	47204	24 1	14
PUGETCGN	36	4*RA	11579	41679AANNW792	3278	47204	24 1	15
PUGETCGN	36	10 RO	41480	61481AANNW802	116368	278550	14 9	16
PUGETCGN	36	10*RO	41480	61481AANNW811	144621	278550	14 9	17
PUGETCGN	36	10*RO	41480	61481AANNW812	17560	278550	14 9	18
NORVACGN	37	4 RA	62178	82278AANNE782	20400	20400	39 :	19
NORVACGN	37	10 RO	10281	30582AANNE811	68369	278000	1413	20
NORVACGN	37	10*RO	10281	30582AANNE812	161821	278000	1413	21
NORVACGN	37	10*RO	10281	30582AANNE821	47808	278000	1413	22
NORVACGN	38	4 RA	80379100279AANNE792	11955	12000	32 1	23	
NORVACGN	38	4*RA	80379100279AANNE801	44	12000	32 1	24	
NORVACGN	38	10 RO	70182	90283AANNE822	69808	278000	913	25
PUGETCGN	39	4 RA	71579	91579AANNE792	12000	12000	100 1	26
CHASNCGN	40	4 RA	50182	70182AANNE822	12000	12000	100 1	27
NWPACCV	41	35 RA	71078	91178CVAPW782	40000	40000	4917	28
PUGETCV	41	36 RA	111078	11179CVANW791	40000	40000	4817	29
LBECHCV	41	40 RO	101280101281CVANW811	179097	396045	0 1	30	
LBECHCV	41	40*RO	101280101281CVANW812	215472	396045	0 1	31	
LBECHCV	41	40*RO	101280101281CVANW821	1474	396045	0 1	32	
LBECHCV	43	40 RO	113077112978CVANW781	124004	342067	1724	33	
LBECHCV	43	40*RO	113077112978CVANW782	199985	342067	1724	34	
LBECHCV	43	40*RO	113077112978CVANW791	18076	342067	1724	35	
D 12 CV	43	41 RA	31080	71180CVAPW801	2096	10000	017	36
D 12 CV	43	41*RA	31080	71180CVAPW802	7903	10000	017	37
D 06 CV	59	41 RA	110378	12979CVAPE791	73258	73258	3917	38
NORVACV	59	42 RA	50380	72980CVANE802	60000	60000	4317	39
NORVACV	59	43 RA	100181	10182CVANE821	60000	60000	4417	40
D 06 CV	60	53 RA	10678	40378CVAPE781	86977	89360	4017	41
D 06 CV	60	53*RA	10678	40378CVAPE782	2382	89360	4017	42
NORVACV	60	60 RO	42079120179CVANE792	194944	240000	4723	43	
NORVACV	60	60*RO	42079120179CVANE801	45055	240000	4723	44	
D 06 CV	60	61 RA	70182100182CVAPE822	59484	60000	4217	45	
PUGETCV	61	50 RO	21577	21578CVANN781	111606	443300	3824	46
D 11 CV	61	51 RA	20180	50180CVAPW801	44312	60000	42 1	47
D 11 CV	61	51*RA	20180	50180CVAPW802	15687	60000	42 1	48
D 11 CV	61	52 RA	90181120181CVAPW812	14731	60000	46 1	49	
D 11 CV	61	52*RA	90181120181CVAPW821	45268	60000	46 1	50	
NORVACV	62	40 RO	112177101978CVANE781	140469	346352	4123	51	
NORVACV	62	40*RO	112177101978CVANE782	199596	346352	4123	52	
NORVACV	62	40*RO	112177101978CVANE791	6286	346352	4123	53	
NORVACV	62	41 RA	90179112679CVANE792	29389	69170	4217	54	
NORVACV	62	41*RA	90179112679CVANE801	39780	69170	4217	55	
D 11 CV	62	42 RA	10281	40181CVAPW811	59925	60000	41 1	56
D 11 CV	62	42*RA	10281	40181CVAPW812	74	60000	41 1	57
D 11 CV	62	43 RA	50182	80182CVAPW822	60000	60000	41 1	58